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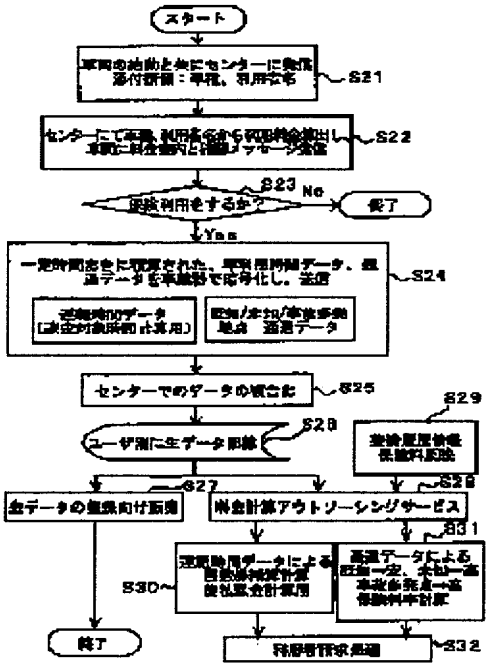
(54) CAR INSURANCE REQUEST PROCESSING METHOD

(57)Abstract:
PROBLEM TO BE SOLVED: To diversify the method of the contract of insurance according to the use frequency and the usage situation of a car by obtaining and collecting driving time in a prescribed period concerning the contracted car, integrating the driving time data, obtaining/collecting and make statistics on pass data at a place, where the vehicle drove through and executing a car insurance request processing.
SOLUTION: When it is emitted that insurance is to be used (S23), car user time data and pass data, which are accumulated at every prescribed time, are ciphered by an on-vehicle unit and are sent to a center (S24). Data are decoded by the center (S25) and are recorded as raw data by individual users (S26). Data collected/make into statistics are used for sales to the accident insurance of raw data (S27) or are supplied to a rate calculation outsourcing service company (S28). Maintenance history information is supplied to the rate calculation outsourcing service company, so that it is reflected on insurance calculation as data (S29).



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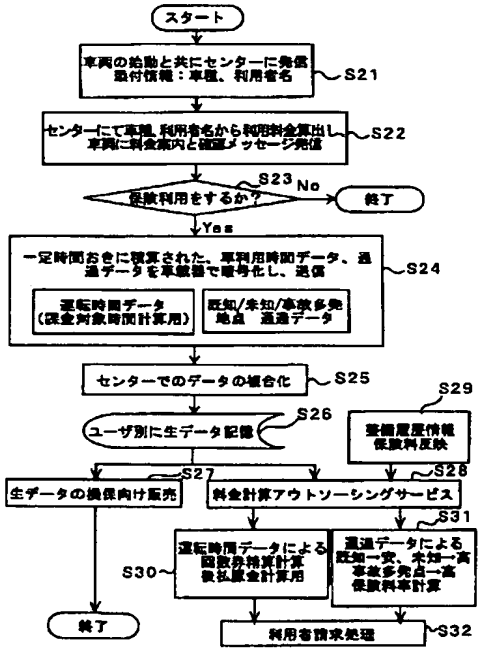
最終頁に続く

(54)【発明の名称】　車両保険料請求処理方法

(57)【要約】
【課題】本発明は、現在の車両状態情報を詳細に、かつ確実にリアルタイムで継続して収集し、統計することによって車両の利用頻度，利用状況に応じた保険料支払いすることのできる車両保険料請求処理方式を提供することを目的とする。
【解決手段】契約された車両について一定期間内における運転時間を求めて収集し、かつ当該車両の運転で通過した地点または領域（以下、地点として表現する。）についての通過データを求めて収集し、前記運転時間から課金対象時間データを、そして該課金対象時間データ，通過データの一方または双方に基づいて保険料重み付けを設定し、課金対象時間データ，通過データおよび保険料重み付けに基づいて保険料請求額を表示し、車両保険料請求処理を行う。

図 6



【特許請求の範囲】
【請求項１】車両の利用者との契約によって車両の保険料を確定して車両保険料を請求する車両保険料請求処理方法において、
契約された車両について一定期間内における運転時間を求めて収集し、運転時間データを統計し、かつ当該車両の運転した地点，領域，系路（以下、地点と総称する。）についての通過データを求めて収集し、統計するステップを含んで構成されることを特徴とする車両保険料請求処理方法。
【請求項２】車両の利用者との契約によって車両の保険料を確定して車両保険料を請求する車両保険料請求処理方法において、
契約された車両について一定期間内における運転時間を求めて収集し、かつ当該車両の運転で通過した地点または領域（以下、地点として表現する。）についての通過データを求めて収集し、
前記運転時間から課金対象時間データを、そして該課金対象時間データ，通過データの一方または双方に基づいて保険料重み付けを設定し、
課金対象時間データ，通過データおよび保険料重み付けに基づいて保険料請求額を表示し、車両保険料請求処理を行うことを特徴とする車両保険料請求処理方法。
【請求項３】請求項２において、
前記保険料重み付けは、保険料率であることを特徴とする車両保険料請求処理方法。
【請求項４】請求項２において、
前記通過データは、既知として登録された地点，未知として非登録の地点および事故多発点として登録された地点を含み、既知として登録された地点は保険料重み付けが安く、未知として非登録の地点および事故多発点として登録された地点は保険料重み付けが高く設定することを特徴とする車両保険料請求処理方法。
【請求項５】請求項２において、
前記保険料重み付けのため、車両制御情報，車両部品状態情報，車両および利用者についての利用者情報あるいは整備履歴情報などのその他の情報が使用されることを特徴とする車両保険料請求処理方法。
【請求項６】請求項２において、
課金対象時間と保険料重み付けされた通過データからポイントを計算し、ポイントに基づいて保険料率または保険額を定めることを特徴とする車両保険料請求処理方法。
【請求項７】車両の利用者との契約によって車両の保険料を確定して車両保険料を請求する車両保険料請求処理方法において、
車両に設けたアンテナから人工衛星に発信した信号の反射信号によって車両位置を求めて収集し、かつ車両制御情報、または車両部品状態情報を当該車両に設けたアンテナから人工衛星に発信し、人工衛星で反射された信号を受信することによって、または当該車両からＤＳＲＣ（専用挟域通信）あるいは携帯電話などの移動体通信装置を介して送信して、当該送信信号を受信することによって収集して個別の車両状態情報を収集することによって、車両情報を統計し、
該車両情報の統計に基づいて後払いによる車両保険料請求処理を行うことを特徴とする車両保険料請求処理方法。
【請求項８】車両の利用者との契約によって車両の保険料を確定して車両保険料を請求する車両保険料請求処理方法において、
車両に設けたアンテナから人工衛星に発信した信号の反射信号によって車両位置情報を求めて収集し、かつ車両センサ情報を当該車両に設けたアンテナから人工衛星に発信し、人工衛星で反射された信号を受信することによって、または当該車両からＤＳＲＣ（専用狭域通信）あるいは携帯電話などの通信装置を介して送信して、当該送信信号を受信することによって収集して個別の車両状態情報を収集すること、
当該車両について別途入力された車種，車番などの車体情報および利用者情報と合わせて個別の車両状態を収集し、
該車両情報の統計に基づいて後払いによる車両保険料請求処理を行うことを特徴とする車両保険料請求処理方法。
【請求項９】車両の利用者との契約によって車両の保険料を確定して車両保険料を請求する車両保険料請求処理方法において、
車両に設けたアンテナから人工衛星に発信した信号の反射信号によって車両位置情報を求めて収集し、かつ車両制御情報および車両部品状態情報を当該車両に設けたアンテナから人工衛星に発信し、人工衛星で反射された信号を受信することによって、または当該車両からＤＳＲＣ（専用狭域通信）あるいは携帯電話などの通信装置を介して送信して、当該送信信号を受信することによって収集して個別の車両状態情報を収集し、
車両に搭載された診断システムから注出された自動車状態情報を当該診断システムの診断結果情報発信指示に基づいて当該車両から人工衛星に発信し、
該人工衛星から反射された信号を受信し、当該車両について別途入力された車種，車番などの車体情報および利用者情報と合わせて個別の車両状態を収集し、
該車両情報の統計に基づいて後払いによる車両保険料請求処理を行うことを特徴とする車両保険料請求処理方法。
【請求項１０】車両の利用者との契約によって車両の保険料を確定して車両保険料を請求する車両保険料請求処理方法において、
車両制御情報、または車両部品状態情報を当該車両に設けたアンテナから人工衛星に発信し、人工衛星で反射さ

れた信号を受信することによって収集して個別の車両状態情報を収集することによって、車両情報を統計し、
該車両情報の統計に基づいて車両保険料請求処理を行うことを特徴とする車両保険料請求処理方法。
【請求項１１】車両の利用者との契約によって車両の保険料を確定して車両保険料を請求する車両保険料請求処理方法において、
車両センサ情報を当該車両に設けたアンテナから人工衛星に発信し、人工衛星で反射された信号を受信することによって収集して個別の車両状態情報を収集すること、
当該車両について別途入力された車種，車番などの車体情報および利用者情報と合わせて個別の車両状態を収集し、
該車両情報の統計に基づいて後払いによる車両保険料請求処理を行うことを特徴とする車両保険料請求処理方法。
【請求項１２】車両の利用者との契約によって車両の保険料を確定して車両保険料を請求する車両保険料請求処理方法において、
車両制御情報および車両部品状態情報を当該車両に設けたアンテナから人工衛星に発信し、人工衛星で反射された信号を受信することによって車両に搭載された診断システムから注出された自動車状態情報を当該診断システムの診断結果発信指示に基づいて当該車両から人工衛星に発信し、
該人工衛星から反射された信号を受信し、当該車両について別途入力された車種，車番などの車体情報および利用者情報と合わせて個別の車両状態を収集し、
該車両情報の統計に基づいて後払いによる車両保険料請求処理を行うことを特徴とする車両保険料請求処理方法。
【発明の詳細な説明】
【０００１】
【発明の属する技術分野】本発明は、衛星通信システム、あるいは、その他の移動体通信システム（地上波デジタル通信，携帯電話，ＤＳＲＣ等）を利用して、移動体の情報収集を行う方法に関する。
【０００２】
【従来の技術】車両の現在位置を画面に表示するカーナビゲーションシステムが実用化され、普及しており、近年は携帯電話とカーナビゲーションシステムとを接続した通信ナビゲーションシステムも実用化されている。
【０００３】車両状態情報を入手する手段としては、リアルタイム方式ではなく、ディーラーにおける車両の点検時に一部履歴データを作成し、有線通信などを通じて完成車メーカあるいは車両部品メーカに伝達することが行われる。
【０００４】現行の車両保険制度は、車の利用頻度の大小に関わらず年間契約による料金支払方式が採用されている。
【０００５】
【発明が解決しようとする課題】車両状態情報を入手する手段としては、ディーラーにて、車の点検時に一部履歴データを有線接続により吸い上げる仕組みがある。この方法は回収頻度の低さと、自社ディーラーへの点検持込みの不確定さから、完成車メーカや部品メーカが統計解析・車種毎にマーケティングし、設計へフィードバックすることには困難がある。また移動体通信技術として急速に普及した携帯電話で、自社の車種毎のデータを収集管理するには、各ユーザの電話番号の把握が必要であり、特定複数台の情報を一斉収集し、一斉配信することには困難がある。
【０００６】また、車の利用状況が現状は統計的に把握できないため、損害保険会社には車の利用頻度の大小に関わらず年間契約するしかなく、利用頻度，利用状況に比例した料金支払等の多種多様なニーズに応じた、保険料支払ができない。
【０００７】さらには、中古車査定時はチェックシートの記入と写真などのやり取りによる、漠然とした査定であり、同車種，同年代，類似走行距離では、外見以外の車状態の善し悪しを把握することが困難である。
【０００８】従って、現在の車両状態情報をリアルタイムで継続して収集することは行われていないか、または、行われていても収集する情報は極く限られたものであり、その利用性は小さいものと言わざるを得ないものであった。車両状態情報を継続して収集することは、その車両・車種別の統計解析によって欠くことができない事項であり、統計がなければその後の診断解析を行うことができない。
【０００９】本発明はかかる点に鑑みて、現在の車両状態情報を詳細に、かつ確実にリアルタイムで継続して収集し、統計することによって車両の利用頻度，利用状況に応じた保険料支払いすることのできる車両保険料請求処理方法を提供することを目的とする。
【００１０】
【課題を解決するための手段】本発明は、車両状態情報を車両位置情報とその他の情報、例えば車両制御情報，車両部品状態情報，車体情報，利用者情報，車両整備経歴情報などに分け、車両に設けたアンテナから人工衛星に発信した信号の反射信号によって車両位置情報を求めて収集することに特徴がある。従来、アンテナから人工衛星に発信した信号の反射信号によって車両位置を求めてナビゲーションに使用することが行われて来たが求めた車両位置情報を収集し、統計することは行われていない。
【００１１】また、本発明の他の特徴はこのようにして収集した車両位置情報に合わせて他の車両情報を収集することによって、両者を合わせた統計を行うことができるようにしたことにある。この二つの手段によって個々の車両についてリアルタイムで詳細かつ確実な車両情報

の蓄積が可能となって、車両の保険料請求処理に活用することができる。

【００１２】本発明は、契約された車両について一定期間（一日の場合もある。）内における運転時間を求めて収集し、運転時間データを統計し、かつ、当該車両の運転した地点，領域，移動経路（以下、地点と総称することは先に記した。）について通過データを求めて収集し、統計する方法を実行することによって車の利用頻度，利用状況に対応した保険料支払いを可能にするものである。このような方法によって実現される重要なポイントの１つは、従来年間契約によって先払いしていた保険料支払いを利用頻度，利用状況に対応して保険料支払いを後払いとすることができるようになることである。勿論、このようにした収集統計したデータによって現行の契約の料金を改定することは可能である。

【００１３】本発明は、具体的には次に掲げる装置を提供する。

【００１４】本発明は、車両の利用者との契約によって車両の保険料を確定して車両保険料を請求する車両保険料請求処理方法において、契約された車両について一定期間内における運転時間を求めて収集し、かつ当該車両の運転で通過した地点についての通過データを求めて収集し、前記運転時間から課金対象時間データを、そして該課金対象時間データ，通過データの一方または双方に基づいて保険料重み付けを設定し、課金対象時間データ，通過データおよび保険料重み付けに基づいて保険料請求額を表示し、車両保険料請求処理を行う車両保険料請求処理方法を提供する。

【００１５】本発明は、更に前記保険料重み付けは、保険料率である車両保険料請求処理方法を提供する。

【００１６】本発明は、更に前記通過データは、既知として登録された地点，未知として非登録の地点および事故多発点として登録された地点を含み、既知として登録された地点は保険料重み付けが安く、未知として非登録の地点および事故多発点として登録された地点は保険料重み付けが高く設定する車両保険料請求処理方法を提供する。

【００１７】本発明は、更に前記保険料重み付けのため、車両制御情報，車両部品状態情報，車両および利用者についての利用者情報あるいは整備履歴情報などのその他の情報が使用される車両保険料請求処理方法を提供する。

【００１８】本発明は、更に課金対象時間と保険料重み付けされた通過データからポイントを計算し、ポイントに基づいて保険料率または保険額を定める車両保険料請求処理方法を提供する。

【００１９】本発明は、車両に設けたアンテナから人工衛星に発信した信号の反射信号によって車両位置情報を求めて収集し、かつ車両制御情報、または車両部品状態情報を当該車両に設けたアンテナから人工衛星に発信し、人工衛星で反射された信号を受信することによって、または当該車両からＤＳＲＣ（専用狭域通信）あるいは携帯電話などの移動体通信装置を介して送信して、当該送信信号を受信することによって収集して個別の車両状態情報を収集することによって、車両情報を統計し、該車両情報の統計に基づいて後払いによる車両保険料請求処理を行うことを特徴とする車両保険料請求処理方法を提供する。

【００２０】本発明は、車両に設けたアンテナから人工衛星に発信した信号の反射信号によって車両位置を求めて収集し、かつ車両センサ情報を当該車両に設けたアンテナから人工衛星に発信し、人工衛星で反射された信号を受信することによって、または当該車両からＤＳＲＣ（専用狭域通信）あるいは携帯電話などの通信装置を介して送信して、当該送信信号を受信することによって収集して個別の車両状態情報を収集すること、当該車両について別途入力された車種，車番などの車体情報および利用者情報と合わせて個別の車両状態を収集し、該車両情報の統計に基づいて後払いによる車両保険料請求処理を行う車両保険料請求処理方法を提供する。

【００２１】本発明は、車両の利用者との契約によって車両の保険料を確定して車両保険料を請求する車両保険料請求処理方法において、車両に設けたアンテナから人工衛星に発信した信号の反射信号によって車両位置情報を求めて収集し、かつ車両制御情報および車両部品状態情報を当該車両に設けたアンテナから人工衛星に発信し、人工衛星で反射された信号を受信することによって、または当該車両からＤＳＲＣ（専用狭域通信）あるいは携帯電話などの通信装置を介して送信して、当該送信信号を受信することによって収集して個別の車両状態情報を収集し、車両に搭載された診断システムから注出された自動車状態情報を当該診断システムの診断結果情報発信指示に基づいて当該車両から人工衛星に発信し、該人工衛星から反射された信号を受信し、当該車両について別途入力された車種，車番などの車体情報および利用者情報と合わせて個別の車両状態を収集し、該車両情報の統計に基づいて後払いによる車両保険料請求処理を行う車両保険料請求処理方法を提供する。

【００２２】本発明は、車両の利用者との契約によって車両の保険料を確定して車両保険料を請求する車両保険料請求処理方法において、車両制御情報、または車両部品状態情報を当該車両に設けたアンテナから人工衛星に発信し、人工衛星で反射された信号を受信することによって収集して個別の車両状態情報を収集することによって、車両情報を統計し、該車両情報の統計に基づいて車両保険料請求処理を行う車両保険料請求処理方法を提供する。

【００２３】本発明は、車両の利用者との契約によって車両の保険料を確定して車両保険料を請求する車両保険料請求処理方法において、車両センサ情報を当該車両に

設けたアンテナから人工衛星に発信し、人工衛星で反射された信号を受信することによって収集して個別の車両状態情報を収集すること、当該車両について別途入力された車種，車番などの車体情報および利用者情報と合わせて個別の車両状態を収集し、該車両情報の統計に基づいて後払いによる車両保険料請求処理を行う車両保険料請求処理方法を提供する。

【００２４】本発明は、車両の利用者との契約によって車両の保険料を確定して車両保険料を請求する車両保険料請求処理方法において、車両制御情報および車両部品状態情報を当該車両に設けたアンテナから人工衛星に発信し、人工衛星で反射された信号を受信することによって車両に搭載された診断システムから注出された自動車状態情報を当該診断システムの診断結果発信指示に基づいて当該車両から人工衛星に発信し、該人工衛星から反射された信号を受信し、当該車両について別途入力された車種，車番などの車体情報および利用者情報と合わせて個別の車両状態を収集し、該車両情報の統計に基づいて後払いによる車両保険料請求処理を行う車両保険料請求処理方法を提供する。

【００２５】

【発明の実施の形態】以下、本発明にかかる一実施例を図面に基づいて説明する。

【００２６】図１は、システム概念図である。図において、車両１からの車両状態情報は二つに分けられ、その一つである車両位置情報は車両１に設けた各種制御装置を載せた車載器２を介してアンテナ３から人工衛星４に発信される。車両位置情報は、ナビゲーション端末からの緯度・経度を含む情報でも構わない。

【００２７】人工衛星４で反射される信号は、例えばＳ－バンド衛星通信・放送システム（ＨＥＯ）５によって車両情報として一括管理センター６に送られる。

【００２８】車両には、車両運転状態を検知する各種のセンサーが設けており、車センサー情報が得られる。各種センサー情報の送信に先立って車種を判別するための車体情報、例えば車種，車体番号，製造年月日，登録都道府県名などの情報、あるいは利用者情報などの情報が予め発信させて登録しておくことができる。また、車両にはカードリーダ／ライター７が設けてあり、利用者専用のカード８、例えば道路使用料金支払いのためのクレジットカードが設けられる。このカード８には、利用者情報、例えば利用者名，運転免許証取得年月日，運転歴，銀行振替口座番号などが記録される。また、このカードは、後述する車両保険を利用するときの利用料金を支払うためにも使用することができる。

【００２９】車体情報と車センサー情報の一部は概略情報として車載器２を介してアンテナ３から人工衛星４に発信され、車両位置情報と同じようにＳ－バンド衛星通信・放送システム５によって一括管理センターに収集される。

【００３０】残りの車両情報は、例えば汎用ＤＳＲＣ（専用狭域通信，Dedicated Short Range Communication）８によって、ディーラ９を介して、あるいは直接的に一括管理センターに入力，収集される。残りの車両情報としては、利用者情報および車センサー情報の一部である詳細情報並びに車体情報などがある。カード８を使用してのガソリンの購入は、ガソリンスタンド１０を介して同様に情報として一括管理センター６に入力，収集されてよい。このことによって燃費，エンジン情報が得られる。その他の車両情報は、バックアップ回線１１である無線通信手段によって一括管理センター６に入力，収集される。

【００３１】一括管理センター６に収集された車両情報は、統計され、統計解析あるいは診断解析に活用される。統計解析あるいは診断解析に使用された車両情報は、コンピュータのデータベース（ＤＢ）１９に記録されると共に、ネットワークバークボーン１３、すなわち公衆回線、インターネットなどを介して損害保険会社１４，完成車メーカ・部品メーカ１５，中古車査定業者１６，省庁・自治体１７，レンタルカー管理業者１８に情報提供される。勿論、この情報提供は無原則で行われるのではなく、契約その他の制約の下に行われることになる。また、個々の車両からの車両情報提供も無原則に行われるのではなく、契約その他の制約の下に行われることになる。また、情報提供を許す利用者に何等かの恩典が与えられてもよい。

【００３２】図２は車載器を示す。図において、送信装置２１，カーナビゲーション装置２２，車両の駆動系２３および指示／補機系２４から構成される。

【００３３】アンテナ３からの信号は送受信回路３１と変調復調回路３２を介して取り込まれ、変調復調回路３２で復調され、送信受信制御回路３３で暗号処理され、バス３４を介し、ＣＰＵ３５に取り込まれる。

【００３４】ＣＰＵ３５は、送信すべき情報を送信受信制御回路３３で暗号処理するなど必要な処理を施し、変調復調回路３２で変調し、送信受信制御回路３３を介してアンテナ３から送信される。

【００３５】カードがカードリーダー／ライター７で読み取られリードライト制御回路３６を介してＣＰＵ３５に取り込まれる。逆にカードに書き込むデータはＣＰＵ３５によりリードライト制御回路３６に送られ、リードライト制御回路３６はカードリーダー／ライター７を介してカードに書き込む。

【００３６】使用者は入出力部３８を操作し、ＣＰＵ３５に処理を指示する。ＣＰＵ３５は必要な表示を入出力部３８の表示画面３９に表示し、また図示されていないが音声でも出力する。

【００３７】ナビゲーション装置２２は、受信部４１，表示部４２，操作部４３，アンテナ４４を有し、現在位置や移動した経路，地図（道路情報）情報を記録してお

り、ＣＰＵ３５からの要求に応じ、必要な情報をＣＰＵ３５へ供給できる。

【００３８】四角で囲んだ、アンテナ３，送受信回路３１と変調復調回路３２，送信受信制御回路３３，ＣＰＵ３５，入出力部３８，カードリーダー／ライター７，リードライト制御回路３６からなる送受信装置２１が本発明の実施に使用されるシステムであり、必要な情報を得るために他の装置やシステムと更につながっている。これらの装置やシステムは次の通りである。

【００３９】車の駆動系２３は、エンジン制御装置４５や自動変速装置４６，ブレーキ制御装置４７（アンチスキッド制御），パワーステアリング装置４８、これらの装置の診断を時々刻々行う駆動系診断システム４９からなり、これらは内部バス５０でつながっている。駆動系診断システム４９はそれぞれの内部のセンサの値が規定範囲を外れていないか、電圧や電流が規定範囲を外れていないか、を診断し、その内容を一定時間毎および不具合が検出される毎に記憶する。この記憶内容は駆動系インターフェイス５１を介してＣＰＵ３５に取り込まれる。

【００４０】指示／補機系２４は、ライトや方向指示器，ブレーキの操作表示、等のライト指示灯制御装置５２，パワーウィンドー制御装置５３，車高の上げ下げや車のダンパー調整のための車高制御装置５４，発電機やエアコン５５からなり、これらは内部バス５６でつながっている。これらの装置が正常に動作しているかどうかまたこれらは装置の操作の有無は指示／補機系診断システム５７で診断され、不具合や使用状況が保持される。ＣＰＵ３５は必要に応じ、指示／補機系インターフェイス５８を介してこれらの保持データを取り込むことができる。

【００４１】ＣＰＵ３５は、診断システム５０，５７の診断結果情報発信があると、その情報を人工衛星に送信するかどうかを判断し、送信するとしたときに送信受信制御回路３３に診断結果の送信を指示する。この場合、送信受信制御回路３３は、人工衛星に対し送信許可を求めるチャンネルを持っており、人工衛星から送信のためのチャンネルの割当を受け、このチャンネルを使用して人工衛星への送信が行われる。ＣＰＵ３５は、診断結果の送信に先立って当該車両の車種，車両，あるいは利用者名等を送信受信制御回路３３に指示して人工衛星に送信することによって一括管理センター６にデータを入力させることができる。診断システム５０，５７に介さないで車両に載せた各種センサ情報の発信を受けてＣＰＵ３５が同様の機能を果たしてセンサ情報を一括管理センター６に入力し、収集された情報に基づいて診断を行うようにしてもよい。このようにしても車両情報を収集することができる。

【００４２】図３は各車両からの情報を受ける一括管理センター側のシステムである。

【００４３】アンテナ６１，送受信回路６２，変調復調回路６３，送受信制御回路６４，ＣＰＵ６５，入出力部６６は上と同じ機能を有する。ＣＰＵ６５とは別にコンピュータすなわち処理装置６８を有する業務処理システム６７があり、大量のデータを保持する。バス６８を介してサーバー６９がつながっている。

【００４４】業務処理システム６７は、車種毎や利用者毎、車の製造番号毎にデータを整理し、サーバーの保管をする。必要に応じ保管しているデータをサーバー６９から取り出して提供する。

【００４５】図４に、衛星通信・放送システムの概要を示す。

【００４６】図において、１００は放送局、１１０は放送用人工衛星（図１における４）、１２０はＧＰＳ衛星、１３０は車両、１５０はカーナビゲーションシステム、１４０はカーナビゲーションシステム１５０上の情報表示を表している。なお、カーナビゲーションシステム１５０は、受信装置を備える。また、カーナビゲーションシステム１５０は、車両１３０に搭載され、車上で位置検知，経路探索，情報提示を行う。

【００４７】また、１９０は放送局１００からの衛星放送発信信号、１０５は放送用人工衛星１１０からの衛星放送信号、１１５はＧＰＳ衛星１２０からの位置確認用信号、１７０は情報の伝達対象となる全領域範囲、１３５は車両１３０の移動経路、１６０は全領域範囲１７０上における車両１３０の移動経路１３５に対応する領域、１８０は全領域範囲１７０上における情報を伝達する対象の領域、１３５は全領域範囲１７０上における車両１３０の現在存在する領域、を表している。

【００４８】いま、情報の伝達対象となる全領域範囲１７０を、図１の様に小領域に区分するものとする。この小領域の区分に関する情報は、放送局１００，カーナビゲーションシステム１５０、ともに同一のものを保有するものとする。また、カーナビゲーションシステム１５０は、車両１３０の位置を特定でき、また、衛星放送信号１０５を受信し、情報を提示できるものとする。

【００４９】放送局１００は、情報を伝達する対象の領域を、領域１８０と決め、その情報に、領域１８０を特定する情報を付加して、衛星放送発信信号１９０で、放送用人工衛星１１０へ送る。衛星放送発信信号１９０を受けた放送用人工衛星１１０は、衛星放送信号１０５で、信号を転送する。

【００５０】一方、カーナビゲーションシステム１５０は、ＧＰＳ衛星１２０からの位置確認用信号１１５を受信して、車両１３０の位置を求めている。また、カーナビゲーションシステム１５０は、全領域範囲１７０上における車両１３０の存在する領域１２５を特定している。また、カーナビゲーションシステム１５０は、運転者による予めの入力により保有している、あるいは、経路探索機能により求めた移動経路１３５から、対応する

領域１６０を求めている。
【００５１】放送を受信すると、カーナビゲーションシステム１５０は、衛星放送信号１０５を受信し、含まれている情報，領域を特定する情報を取り出す。ここでは、領域１８０を特定する情報を取り出すことになる。カーナビゲーションシステム１５０は、車両１３０の現在存在する領域１２５，移動経路１３５，移動地点を求めることができる。
【００５２】放送用人工衛星１１０は、地上から見て、常に天頂方向に位置するような人工衛星とし、カーナビゲーションシステム１５０の受信感度を当該人工衛星に絞り受信するものであってもよい。その場合、ビルなどの建造物による受信障害を低減することができ、放送が中断することはない、各移動体の状況に応じた情報提示を行う放送システムを実現することができる。
【００５３】図５に車両状態情報の収集・解析および処理方法をフローチャートとして示す。この図において、
（１）　運転者である利用者が車両にキーインし、エンジンをスタートさせた直後に、自動的に車両から一括管理センターへ起動開始信号を発信する（Ｓ１）。通信方式は最も通話不能状態が少ないと思われる、ＨＥＯ経路を中心とし、ＤＳＲＣや携帯電話でも通信可能なものとする。
【００５４】（２）　センターが上記信号を受信後、センターから車両に情報提供を許すかの確認メッセージを発信する（Ｓ２）。
【００５５】（３）　運転者に情報提供を許可するかの確認をする（Ｓ３）。確認内容提供方法としては、音声応答かまたはディスプレイ表示による。回答方法は、車載器の２つ以上のボタンによる。
【００５６】（４）　提供許可な場合のみ、個別の車両についての個別車両情報収集され、統計がなされる（Ｓ４）。また、これらのデータに基づいて、例えば、保険会社別などの目的別車両情報収集・統計がなされる（Ｓ５）。
【００５７】（５）　提供許可な場合のみ、サービスポイントを積算するシステムが立ち上がる（Ｓ６）。このサービスポイントは走行距離や、エンジン始動中の時間に比例して増える仕組みとし、たくさん乗車すればするほど、受けられるサービスが増える仕組みとする。サービスポイントは車毎だけでなく、利用者毎に管理できるものともし、それには各自のＩＤカードを車載器に差し入れ、年齢・性別・血液型などの情報が送信されるものとする。
【００５８】（６）　ここで車両状態情報とは以下をさし、提供許可の場合でも、公開するレベルは選択できるものとする。
(1) 車両位置情報　　ナビ端末から緯度・経度情報
(2) 車両制御情報　　ブレーキ量，ハンドル確度，アクセル開度，ギア数，ＡＢＳ作動時間，ＶＳＣ作動時間
(3) 車両部品状態情報　油温，油圧，電圧，燃料残量，ＣＰＵ状態，マフラー温度　ＶＳＣ：横滑り抑上制御機構
【００５９】（７）　データを暗号化し（Ｓ７）、センターへ送信する（Ｓ８）。
【００６０】ここまでが情報収集機能である。引き続き情報処理・解析機能について説明する。
【００６１】（８）　データをセンターにて複合化する（Ｓ９）
【００６２】（９）　各メーカの車種毎に生データを保存ＤＢ化する。
【００６３】(10)　車種毎に統計解析を実施（Ｓ１０，Ｓ１１）
(1) 他社に対して特徴を出す機能として取り付けた、新機能がどれくらい使用されているか？
(2) 車種毎の利用形態に特徴が無いか？　Ｅｘ．時間帯・曜日・商用か否か
【００６４】(11)　部品毎の性能解析を実施（Ｓ１０，Ｓ１２）
(1) 温度に異常はないか？
(2) 圧力に異常はないか？
(3) 製品寿命は妥当か？
【００６５】(12)　解析データをＤＢに保存する（Ｓ１３）。
【００６６】完成車メーカ・部品メーカ向けデータ提供サービスについて説明する。
【００６７】前述のフローの情報収集・処理／解析機能で貯えられたデータを、完成車メーカまたは部品メーカに販売・提供するサービスである。
【００６８】①完成車メーカまたは部品メーカからの購入希望により、ネットワークを介してデータを販売提供する（Ｓ１４，Ｓ１５）。ネットワークは公衆網全搬で顧客ニーズに合う手段を選択できる。
②データは他社に傍受されないよう、暗号化して送付する。
③受信したメーカはデータを以下のように活用することが期待できる。
【００６９】＜統計解析データ応用＞
(1) ある車種が、どの世代に、どのような曜日のどんな時間帯に使用されているかの統計解析情報を分析し、その車種の不足している機能や、余分な機能，価格設定などの検討を行う。
(2) 他社に対して特徴を出す機能として取り付けた、新機能がどれくらい使用されているかを確認し多く用いられている場合は、他車種への適用を検討，利用が少ない場合は標準装備からはずしたり、価格設定の見直し、その機能の採用取り止めなどの検討を行う。
(3) ディーラに現在の年齢・性別に応じた売れ筋の車種，機能を紹介し、顧客の世代・性別に応じた販売ＰＲが可能である。

【００７０】＜部品毎の性能解析データの応用＞
(4) 部品毎の故障頻度を探握する事で、その製品寿命の妥当性を検証できる。
(5) ユーザ（運転実）からの異常連絡があった際に、その前後の生情報及び性能解析データをパッケージ化して、修理業者・ディーラに提供し、再現しにくい異常の原因把握に役立てる。
【００７１】中古車関連業者向けデータ提供サービスについて説明する。
【００７２】システム例１の情報収集・処理／解析機能で貯えられたデータを、中古車販売業者やディーラに販売・提供するサービスである（Ｓ１８）。
【００７３】①車を購入しようとしている者が自分の車の査定額を把握するため、センターに接続。
②センターでは、査定依頼のあった車の点検履歴や、走行距離，車種・形式に加え、機器の内部状態を把握するための情報（Ｅｘ．エンジン制御情報，ハンドル角速度情報，ＡＢＳ累積作動時間，ＶＳＣ累積作動時間など）や車に害する位置の通過情報（海岸，雪上：両方共に塩害）などから、査定額を木目細かに、決定。
③上記方式は、下取り車を持ち込む可能性の高い、ディーラや中古車販売業者，解体業者，自動整備工場にもサービスすることができる。
【００７４】環境庁向けデータ提供サービスについて説明する。
【００７５】前述したフローの情報収集・処理／解析機能で貯えられたデータの内、環境に関わる情報を環境庁に提供するサービスである。
【００７６】①エンジンから排出される、有害ガスが環境基準値をクリアしているかを、無作為にピックアップして、検査。
②車種毎に統計解析し、基準値をクリアしない車種がある台数以上見つかった場合、環境庁はメーカにその車種の改善勧告をする。
【００７７】レンタカー会社及びレンタカー利用者向けデータ提供サービスについて説明する。
【００７８】前述したフローの情報収集・処理／解析機能で貯えられたデータの内、位置情報をレンター会社に提供するサービスである。
【００７９】＜レンタカー会社向け＞
①レンタカーやCommunity Transport で利用される車のレンタル期限が過ぎると、レンタカーが自車位置をＨＥＯ経由でセンターに自動送出。
②センターから車管理会社に送信し、管理会社が期限切れした車のモニタリングを可能とする。提供方法としては、ａ）緯度・経度情報，ｂ）地名情報，ｃ）地図表示グラフィック画面情報が考えられる。
【００８０】コミュニティトランスポートとは、ある地域内で共同利用乗り捨てを可能とする都心版レンタカーシステムである。
【００８１】＜レンタカー利用者向け＞
①今回の分担で別の該当ではあるが、その地域のコマーシャル情報を利用者に送信するサービス。
②コマーシャル提供会社とレンタカー会社が提携し、利用者がコマーシャル情報を流す事を受け入れた場合は、レンタル料をキャッシュバックする。
③提供媒体はナビ用モニターか、音声だけによる提供が考えられる。
【００８２】自治体Electronic Road Pricing 向けデータ提供サービスについて説明する。
【００８３】前述したフローの情報収集・処理／解析機能で貯えられたデータの内、ある規制エリア通過情報（自治体境界など）・進入時刻・規制エリア内移動中積算時間を自治体に提供するサービスである。
【００８４】①規制エリアに接近した車は、自動的にＨＥＯ経由センターの自動発信し、ＨＥＯから●規制エリアであること●現在通過すると一定時間でいくら徴収されること、を車に知らせる。規制エリアに入った事の判断は、車載のＧＰＳ機能連動による位置情報把握や、ＨＥＯを用いず路側ＤＳＲＣで検知する方法がある。
②上記①が連絡された後に、規制エリアを通過したどうかを車載器側で常時チェックし、通過した時点で、進入時刻とその車の利用実，エリア移動中積算時間をＨＥＯ経由でセンサ側に送信。
③決済方法としては、事後一括請求とＥＴＣによる即時決済，プリペード支払がある。
【００８５】損害保険会社向けデータ提供サービズについて説明する。
【００８６】前述したフローの情報収集・処理／解析機能で貯えられたデータを、損害保険会社に料率算定や事故責任割合の算定などのために販売・提供するサービスである（Ｓ１４）。
【００８７】①車を利用している時間帯だけ保険料を払うサービスが提供できる。オンデマンド保険（頻繁に車に乗らない人向け、weekend利用者向き。保険を年間契約せずに安価に）支払方法については、これまでの前払い方法に加え、一定期間（Ｅｘ．１ヶ月）分纏めた後払い方式や、ＥＴＣカードによる即時決済，運転終了時にカード決済するなどの方法も考えられる。
②走行位置を、よく利用する道と、そうでない（初めての）道，事故の多く発生する場所とそうでない場所などの通過を判別し、保険料を算出する。なおプライバシーの保護から、必ずしも緯度・経度の情報を提供しなくてもよく、車載器内で、上記判別を行いそれぞれに対応したコード情報を送信するのでも良い。例えば、過去１年以内に利用していない道を０、その反対を１、事故多発箇所の通過を２などとし、いつどこを移動したかまで提供しないでも良い。
【００８８】以下、車両保険料について損害保険会社向けの車両情報提供サービスについて図６のフローチャー

トを使用して詳細に説明する。

【００８９】①運転者である利用者が車両にキーインし、エンジンをスタートさせた直後に、自動的に車両から一括管理センターへ起動開始信号を発信する（Ｓ２１）。これによって、図２に示すフローによって、（１）車両位置情報、（２）車両制御情報、（３）車両部品状態情報が行われ、前述したようにこれらの情報に加えて車種，利用者名等の添付情報が別途一括管理センターに収集されていき、統計される。

【００９０】②センターにて車種，利用者名から利用料金算出し、その車両に料金案内と確認メッセージ発信する（Ｓ２２）。保険を利用するかどうかの判断が車両の利用者に求められる（Ｓ２３）。この例では、車両から車両保険を利用するかどうかを問合せしてその場での契約締結を行うようにしているが、この契約を予めしておくことは勿論可能であり、その場合に期限を限って一定期間とすることができる。また、この例のように短期間、すなわちその日のみとか、旅行日程に合わせた日数とかを設定することができる。ここでは、これらの期間も契約上明示されることになるので一定期間として取扱う。

【００９１】③保険を利用することが発信されると、一定時間おきに積算された、車利用時間データ，通過データを車載器で暗号化し、センターに送信される（Ｓ２４）。一定時間おきではなく、継続して測定することもできる。この場合、収集による記録は特異事項のみにとどめることができる。ここでは、運転時間データが求められ、このデータは課金対象時間データ計算のために使用される。契約の内容によって全運転時間が課金対象時間になる場合もあるし、一部の運転時間を以って課金対象時間とすることもできる。更に車両の通過する既知／未知／事故多発地点についての通過データが収集される。これらの地点についてはセンターにおける中央管理システムが登録を行うか、あるいは未登録であることを確認できる。その他の運転あるいは車両情報をデータ化してもよい。例えば、急ブレーキ，急ハンドル，急発信の頻度と各々の項目の加速度積算値データを収集してもよい。また、地点でなく、その地点を含む領域としてもよい。ここでは地点について説明する。これらのデータは、センターで復号化し（Ｓ２５）、ユーザ別に生データとして記録される（Ｓ２６）。すなわち損害保険会社（損保），料金計算アウトソーシングサービス会社及び利用者向けに生データが記録される。

【００９２】④収集，統計されたデータは、生データの損保向け販売に利用され（Ｓ２７）、また料金計算アウトソーシングサービス会社に提供される（Ｓ２８）。また、別途、整備履歴情報がデータとして保険料計算に反映されるべく当該料金計算アウトソーシングサービス会社に提供される（Ｓ２９）。過去の定期点検・整備履歴情報、例えば整備後の経過日数は？等が収集される。車両にメモリがあれば、車両から発信し、なければ車整備業者からネットワークを経由して収集する。

【００９３】⑤このサービス会社は、運転時間データに基づいて課金対象時間を計算し、確定し、例えば回数券精算計算後払課金計算を行う。また、通過データによる既知地点は安く、未知地点は高く、事故多発点は高く保険料率を設定し、計算を行う。ここでは、この設定を保険料重み付けと称する。基礎保険料に対する保険料率でなく、保険料そのものを計算してよいことは当然である。契約された車両について一定期間内における運転時間を求めて収集し、かつ当該車両の運転で通過した地点（前述したように移動経路，領域を含む。）についての通過データを求めて収集し、前記運転時間データから課金対象時間データを、そして該課金対象時間データ，通過データの一方または双方に基づいて保険料重み付けを設定し、課金対象時間データ，通過データおよび保険料重み付けに基づいて保険料請求額を計算し、表示を行う。勿論、運転時間データから何ポイント、特定した地点を通過した点数から何ポイントであるかを計算し、該ポイントに基づいて保険料請求額を算定することができる。この手法であっても、計算対象として課金対象時間を設定し、通過データを使用し、何ポイントであることを設定することが保険料重み付けを採用していることになる。また、この保険料重み付けのため、車両制御情報，車両部品状態情報，車両（例えば古いか新しいか）および利用者についての利用者情報，整備履歴情報の１つまたは組み合わせてその他の情報として使用されてもよい。

【００９４】⑥保険料請求額に基づいて利用者請求処理が行われる（Ｓ３２）。例えば、前述したカードからの銀行引き落しが後払い方式によっなされることになる。この利用者請求処理は、車両あるいはその部品製造メーカに対するＰＬ（Product Liability）保険料請求処理，事故時過失割合分析に基づく保険料請求処理を含む。

【００９５】尚、前述した車両状態情報を確実に収集し、統計することによって統計分析を行うことができるから現行の先払い方式による車両保険料の支払い額を更新の契約時に見直して料金を改定することが可能である。

【００９６】

【発明の効果】本発明によれば、車両の利用頻度，利用状況をリアルタイムで統計的に把握できるようになるため、車両の利用頻度，利用状況に対応した料金支払請求処理を行うことができる。これによって年間契約による料金支払いに限定されることなく保険の契約の仕方を多様化させることができる。例えば、保険料金の支払が後払い方式となる。

【００９７】具体的には、ＨＥＯを用いて、日本全国に広がった車両の概略状態情報をセンターで一括管理し、

かつＤＳＲＣやＩＭＴ－２０００などの広帯域移動体通信との連携により、詳細状態情報も収集、このデータをマイニングし、その情報を有償提供するサービスが提供される。

【図面の簡単な説明】

【図１】本発明の実施例のシステム概念図。

【図２】車載器の機能を示すブロック図。

【図３】一括管理センターの機能を示すブロック図。

【図４】放送システムの機能を示す概念図。

【図５】車両状態オンライン管理方法を示すフローチャート図。

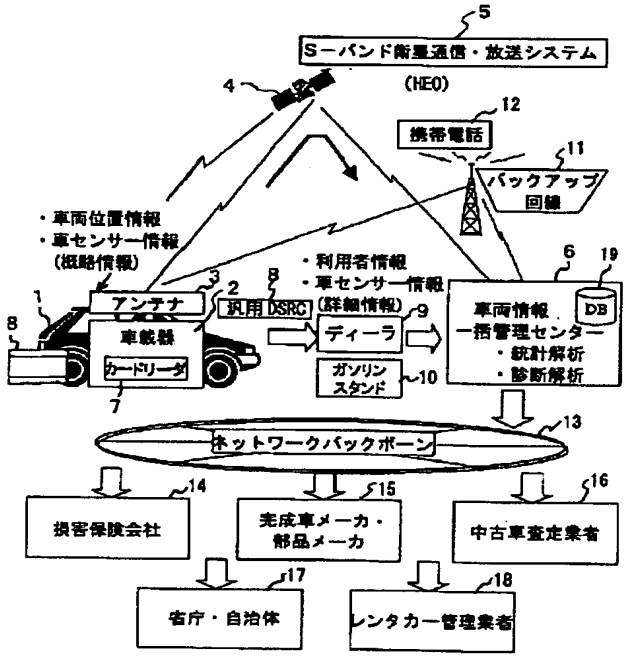
【図６】車両情報提供サービス方法を示すフローチャート図。

【符号の説明】

１…車両、２…車載器、３…アンテナ、４…人工衛星、５…Ｓ－バンド衛星通信・放送システム、６…一括管理センター、７…カードリーダ／ライター、８…カード、９…ディーラ、１０…ガソリンスタンド、１１…バックアップ回線、１２…携帯電話、１３…ネットワークバックボーン、１４…損害保険会社、１５…完成車メーカ・部品メーカ、１６…中古車査定業者、１７…省庁、自治体、１８…レンタカー管理業者、２１…送受信装置、２２…カーナビゲーション装置、２３…駆動系、２４…指示／補機系、３１…送受信回路、３２…変調復調回路、３３…送信受信制御回路、３５…ＣＰＵ（マイクロコンピュータ）、３６…リードライト制御回路、４５…エンジン制御装置、４６…自動変速装置、４７…ブレーキ制御装置、４８…パワーステアリング装置、４９…駆動系診断システム、５１…駆動系インターフェイス、５２…ライト指示灯制御装置、５３…パワーウィンドー制御装置、５４…車高制御装置、５５…発電機，エアコン、５７…指示／補機系診断システム、５８…指示／補機系インターフェイス。

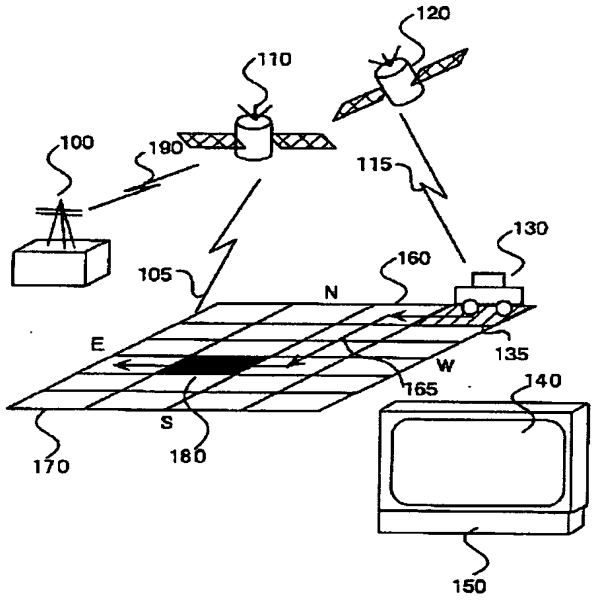
【図１】

図　１



【図４】

図　４



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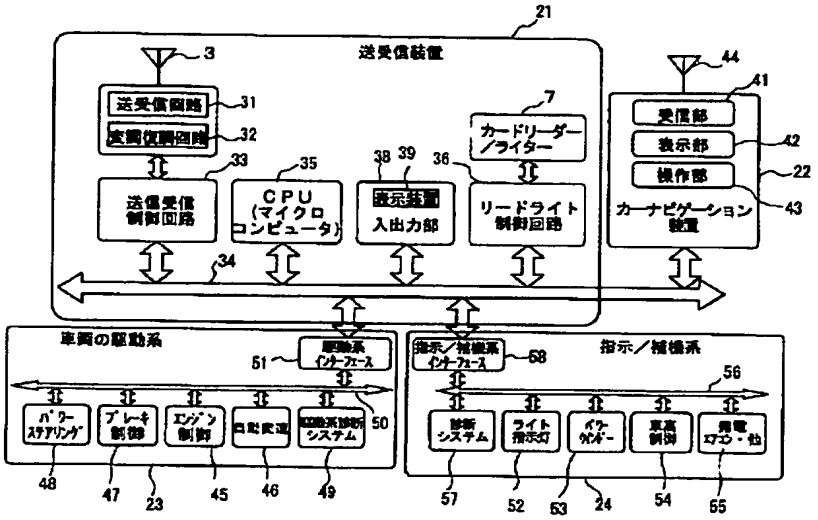
21
送受信装置
3
送受信回路
31
変調復調回路
32
送信受信制御回路
33
CPU（マイクロコンピュータ）
35
表示装置 入出力部
38 39
36
リードライト制御回路
7
カードリーダー／ライター
34
44
41
受信部
表示部
42
操作部
22
カーナビゲーション装置
43
車両の駆動系
駆動系インターフェース
51
50
パワーステアリング
ブレーキ制御
エンジン制御
自動変速
駆動系診断システム
48
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23
45
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指示／補機系
指示／補機系インターフェース
68
56
診断システム
ライト指示灯
パワーウインドー
車高制御
冷暖エアコン・他
57
52
53
24
54
55

図２

【図３】

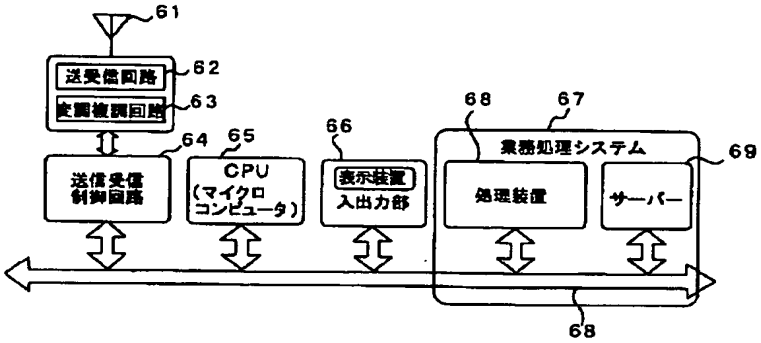
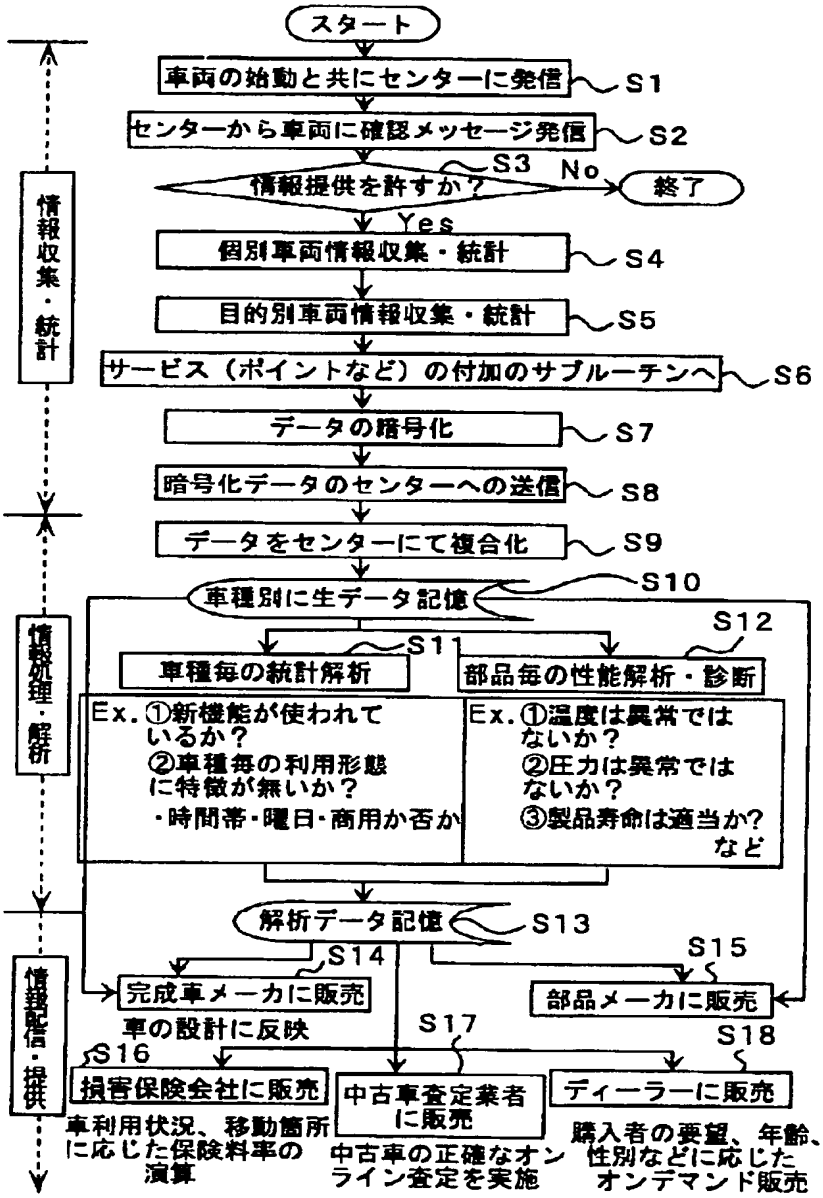

61
送受信回路
62
変調復調回路
63
送信受信制御回路
64
CPU（マイクロコンピュータ）
65
表示装置 入出力部
66
68
67
業務処理システム
69
処理装置
サーバー
68

図３

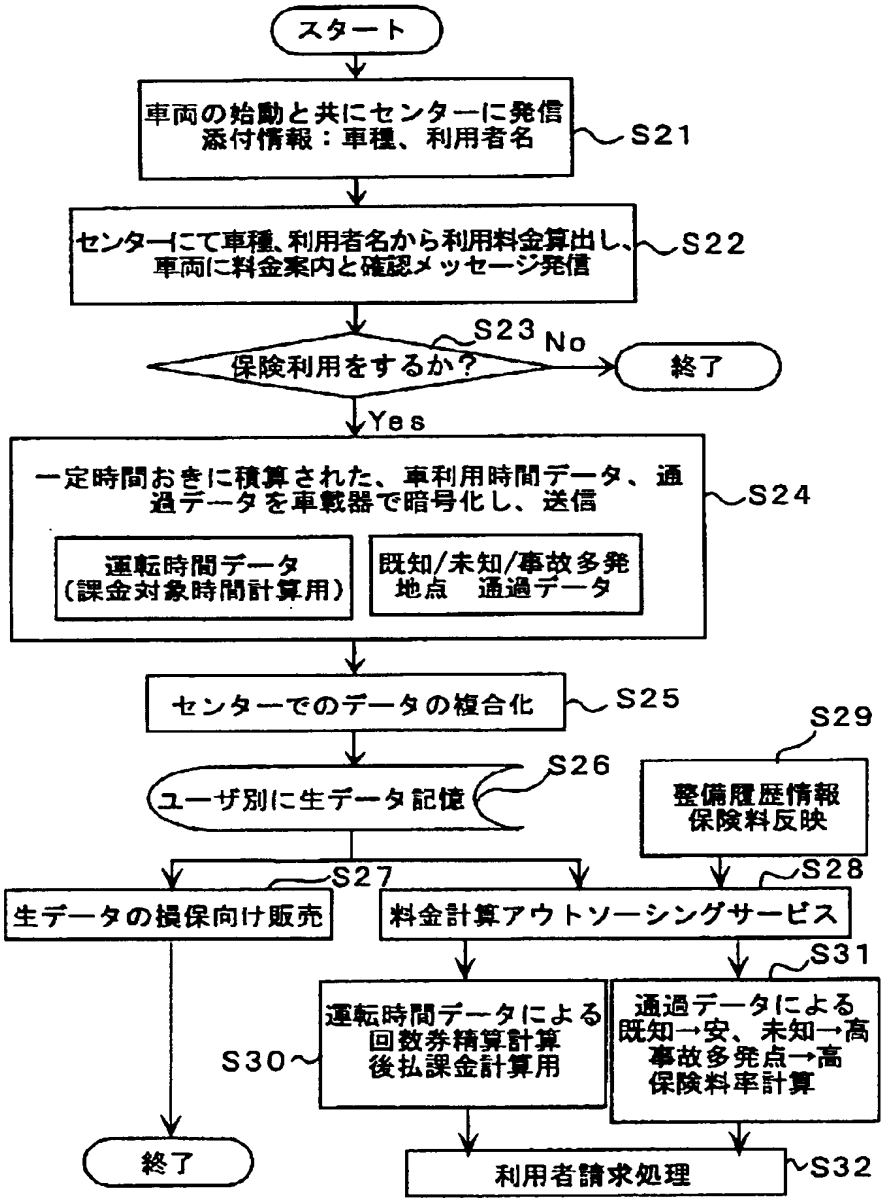
【図５】

図　５


スタート
車両の始動と共にセンターに発信
S1
センターから車両に確認メッセージ発信
S2
S3
No
情報提供を許すか？
終了
Yes
個別車両情報収集・統計
S4
目的別車両情報収集・統計
S5
サービス（ポイントなど）の付加のサブルーチンへ
S6
データの暗号化
S7
暗号化データのセンターへの送信
S8
データをセンターにて複合化
S9
車種別に生データ記憶
S10
S11
S12
車種毎の統計解析
部品毎の性能解析・診断
Ex. ①新機能が使われているか？
②車種毎の利用形態に特徴が無いか？
・時間帯・曜日・商用か否か
Ex. ①温度は異常ではないか？
②圧力は異常ではないか？
③製品寿命は適当か？
など
解析データ記憶
S13
S14
S15
完成車メーカに販売
部品メーカに販売
車の設計に反映
S16
S17
S18
損害保険会社に販売
中古車査定業者に販売
ディーラーに販売
車利用状況、移動箇所に応じた保険料率の演算
中古車の正確なオンライン査定を実施
購入者の要望、年齢、性別などに応じたオンデマンド販売
情報収集・統計
情報処理・解析
情報配信・提供

【図６】

図　６



フロントページの続き

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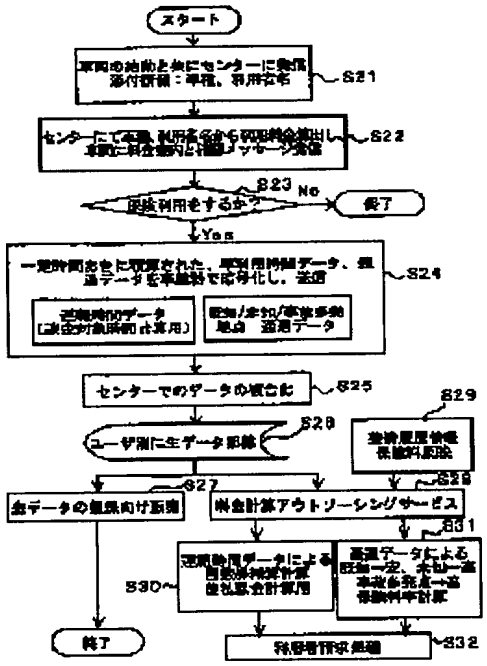
(54) CAR INSURANCE REQUEST PROCESSING METHOD

(57)Abstract:
PROBLEM TO BE SOLVED: To diversify the method of the contract of insurance according to the use frequency and the usage situation of a car by obtaining and collecting driving time in a prescribed period concerning the contracted car, integrating the driving time data, obtaining/collecting and make statistics on pass data at a place, where the vehicle drove through and executing a car insurance request processing.
SOLUTION: When it is emitted that insurance is to be used (S23), car user time data and pass data, which are accumulated at every prescribed time, are ciphered by an on-vehicle unit and are sent to a center (S24). Data are decoded by the center (S25) and are recorded as raw data by individual users (S26). Data collected/make into statistics are used for sales to the accident insurance of raw data (S27) or are supplied to a rate calculation outsourcing service company (S28). Maintenance history information is supplied to the rate calculation outsourcing service company, so that it is reflected on insurance calculation as data (S29).



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[Date of registration]

[Number of appeal against examiner's decision of rejection]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]
[Claim 1] In the car premium claim art which decides the premium of a car and charges a car premium by the contract with the user of a car The point which collected in quest of the operation time within a fixed period about the car a contract of was made, and took the statistics of operation time data, and the car concerned operated, a field, a system way (it is hereafter named a point generically.) about -- the car premium claim art which collects in quest of passage data and is characterized by being constituted including the step the statistics of are taken.
[Claim 2] In the car premium claim art which decides the premium of a car and charges a car premium by the contract with the user of a car The point or field (it expresses as a point hereafter.) through which collected in quest of the operation time within a fixed period about the car a contract of was made, and it passed by operation of the car concerned It collects in quest of passage data. about -- the time data for accounting from said operation time And the car premium claim art characterized by setting up premium weighting based on one side or the both sides of this time data for accounting, and passage data, displaying the premium amount billed based on the time data for accounting, passage data, and premium weighting, and performing car premium claim processing.
[Claim 3] It is the car premium claim art characterized by said premium weighting being a premium rate in claim 2.
[Claim 4] In claim 2, said passage data include the point registered as the point registered as known, the point of not registering as strange, and a point occurring [accident] frequently. The point which the point registered as known had cheap premium weighting, and was registered as the point and the point occurring [accident] frequently of not registering, as strange is a car premium claim art characterized by premium weighting setting up highly.
[Claim 5] The car premium claim art characterized by using the information on others, such as car control information, car components status information, a car and user information about a user, or maintenance hysteresis information, in claim 2 for said premium weighting.
[Claim 6] The car premium claim art characterized by calculating the point in claim 2 from the passage data by which premium weighting was carried out to the time amount for accounting, and defining a premium rate or an insurance frame based on the point.
[Claim 7] In the car premium claim art which decides the premium of a car and charges a car premium by the contract with the user of a car In quest of a car location, it collects with the reflective signal of the signal sent to the satellite from the antenna formed in the car. And by sending to a satellite from the antenna which prepared car control information or car components status information in the car concerned, and receiving the signal reflected with the satellite Or by transmitting through mobile communication devices, such as DSRC (exclusive **** communication link) or a cellular phone, from the car concerned, collecting by receiving the sending signal concerned, and collecting the car status information according to individual The car premium claim art characterized by taking the statistics of car information and performing car premium claim processing by deferred payment based on statistics of this car information.
[Claim 8] In the car premium claim art which decides the premium of a car and charges a car premium by the contract with the user of a car In quest of car positional information, it collects with the reflective signal of the signal sent to the satellite from the antenna formed in the car. And by sending to a satellite from the antenna which prepared car sensor information in the car concerned, and receiving the signal reflected with the satellite Or it transmits through communication devices, such as DSRC (exclusive dedicated short range communications) or a cellular phone, from the car concerned. It collects by

receiving the sending signal concerned, and the car status information according to individual is collected, The car premium claim art characterized by collecting the car conditions according to individual together with the car-body information and user information that it was separately inputted about the car concerned, such as a type of a car and a car number, and performing car premium claim processing by deferred payment based on statistics of this car information.

[Claim 9] In the car premium claim art which decides the premium of a car and charges a car premium by the contract with the user of a car In quest of car positional information, it collects with the reflective signal of the signal sent to the satellite from the antenna formed in the car. And by sending to a satellite from the antenna which prepared car control information and car components status information in the car concerned, and receiving the signal reflected with the satellite Or it transmits through communication devices, such as DSRC (exclusive dedicated short range communications) or a cellular phone, from the car concerned. Collect by receiving the sending signal concerned and the car status information according to individual is collected. The automobile status information by which teeming was carried out from the diagnostic system carried in the car is sent to a satellite from the car concerned based on diagnostic result information dispatch directions of the diagnostic system concerned. Receive the signal reflected from this satellite and the car conditions according to individual are collected together with the car-body information and user information that it was separately inputted about the car concerned, such as a type of a car and a car number. The car premium claim art characterized by performing car premium claim processing by deferred payment based on statistics of this car information.

[Claim 10] In the car premium claim art which decides the premium of a car and charges a car premium by the contract with the user of a car By sending to a satellite from the antenna which prepared car control information or car components status information in the car concerned, collecting by receiving the signal reflected with the satellite, and collecting the car status information according to individual The car premium claim art characterized by taking the statistics of car information and performing car premium claim processing based on statistics of this car information.

[Claim 11] In the car premium claim art which decides the premium of a car and charges a car premium by the contract with the user of a car It sends to a satellite from the antenna which prepared car sensor information in the car concerned, it collects by receiving the signal reflected with the satellite, and the car status information according to individual is collected, The car premium claim art characterized by collecting the car conditions according to individual together with the car-body information and user information that it was separately inputted about the car concerned, such as a type of a car and a car number, and performing car premium claim processing by deferred payment based on statistics of this car information.

[Claim 12] In the car premium claim art which decides the premium of a car and charges a car premium by the contract with the user of a car It sends to a satellite from the antenna which prepared car control information and car components status information in the car concerned. The automobile status information by which teeming was carried out from the diagnostic system carried in the car by receiving the signal reflected with the satellite is sent to a satellite from the car concerned based on diagnostic result dispatch directions of the diagnostic system concerned. Receive the signal reflected from this satellite and the car conditions according to individual are collected together with the car-body information and user information that it was separately inputted about the car concerned, such as a type of a car and a car number. The car premium claim art characterized by performing car premium claim processing by deferred payment based on statistics of this car information.

[Translation done.]

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the approach of gathering information in a mobile, using a satellite communication system or other mobile communication system (terrestrial digital communication, a cellular phone, DSRC, etc.).
[0002]
[Description of the Prior Art] The car-navigation system which displays the current position of a car on a screen is put in practical use, it has spread and the communication link navigation system which connected the cellular phone and the car-navigation system is also put in practical use in recent years.
[0003] As a means by which car status information comes to hand, historical data are created in part at the time of check of the car in not a real-time method but a dealer, and what is transmitted to an entire-car manufacturer or a car components manufacturer through a wire communication etc. is performed.
[0004] The present car insurance system is not concerned with the size of the use frequency of a vehicle, but the tariff payment method by the yearly contract is adopted.
[0005]
[Problem(s) to be Solved by the Invention] As a means by which car status information comes to hand, there is structure which sucks up historical data by cable connection in part by the dealer at the time of check of a vehicle. There is difficulty in an entire-car manufacturer and a components manufacturer doing marketing of this approach for every statistical analysis and type of a car triggered by the indefiniteness of check carrying in to the lowness and their company dealer of recovery frequency, and feeding back to a design. Moreover, with the cellular phone which spread quickly as mobile communication technology, in order to carry out collection management of the data for every type of a car of its company, each user's telephone number needs to be grasped, and there is difficulty in carrying out simultaneous collection of the information on specific two or more bases, and carrying out simultaneous distribution.
[0006] Moreover, since the use situation of a vehicle cannot grasp the present condition statistically, it is not concerned with a nonlife insurance company at the size of the use frequency of a vehicle, and a yearly contract must be carried out and premium payment according to various needs, such as tariff payment proportional to use frequency and a use situation, cannot be performed.
[0007] Furthermore, it is vague assessment by entry of a check sheet, and the exchange of a photograph etc. at the time of used car assessment, and it is difficult to grasp the right and wrong of vehicle conditions other than appearance in this type of a car, the same age, and similar mileage.
[0008] Therefore, the information collected even if continuing and collecting current car status information on real time is not performed or it is carried out was a ********** thing, and the availability was what must be called small thing. By the statistical analysis according to its car and type of a car, it is an indispensable matter to continue and collect car status information, and it cannot perform a subsequent diagnostic analysis without statistics.
[0009] This invention aims at offering the car premium claim art according to the use frequency of a car, and a use situation which can carry out premium payment by continuing, collecting and taking in detail and certainly the statistics of the present car status information on real time in view of this point.
[0010]
[Means for Solving the Problem] This invention has the description in collecting in quest of car positional information with the reflective signal of the signal sent to the satellite from the antenna which divided car status information into car positional information and the information on other, for example, car control information, car components status information, car-body information, user information, servicing career

information, etc., and prepared it in the car. Collecting and taking the statistics of the car positional information searched for although using it for navigation in quest of a car location conventionally with the reflective signal of the signal sent to the satellite from an antenna had been performed is not performed.
[0011] Moreover, other descriptions of this invention are by collecting other car information according to the car positional information which carried out in this way and was collected to have enabled it to perform statistics with which both were doubled. With these two means, are recording of a detail and positive car information is attained on real time about each car, and it can utilize for premium claim processing of a car.
[0012] This inventions are collected in quest of the operation time within a fixed period (there may be a day.) about the car a contract of was made. The point which took the statistics of operation time data, and the car concerned operated, a field, moving trucking (it described naming it a point generically previously hereafter.) ******** -- it collects in quest of passage data, and premium payment corresponding to the use frequency of a vehicle and a use situation is made possible by performing the approach the statistics of are taken. One of the important points realized by such approach is being able to consider premium payment now for the premium payment conventionally prepaid by the yearly contract as deferred payment corresponding to use frequency and a use situation. Of course, it is possible to reform the tariff of the present contract with the data which were carried out in this way and which carried out collection statistics.
[0013] This invention specifically offers the equipment hung up over a degree.
[0014] In the car premium claim art which this invention decides the premium of a car by the contract with the user of a car, and charges a car premium In quest of the operation time within a fixed period, it collects about the car a contract of was made. And it collects in quest of the passage data about the point through which it passed by operation of the car concerned. Based on one side or the both sides of the time data for accounting and this time data for accounting, and passage data, premium weighting is set up from said operation time. The premium amount billed is displayed based on the time data for accounting, passage data, and premium weighting, and the car premium claim art which performs car premium claim processing is offered.
[0015] This invention offers further the car premium claim art said whose premium weighting is a premium rate.
[0016] Including the point where this invention was further registered as the point, the point of not registering as strange, and the point occurring [accident] frequently that said passage data were registered as known, the point registered as known has cheap premium weighting, and the point registered as the point and the point occurring [accident] frequently of not registering, as strange offers the car premium claim art which premium weighting sets up highly.
[0017] This invention offers further the car premium claim art for which the information on others, such as car control information, car components status information, a car and user information about a user, or maintenance hysteresis information, is used for said premium weighting.
[0018] This invention calculates the point from the passage data by which premium weighting was further carried out to the time amount for accounting, and offers the car premium claim art which defines a premium rate or an insurance frame based on the point.
[0019] This inventions are collected in quest of car positional information with the reflective signal of the signal sent to the satellite from the antenna formed in the car. And by sending to a satellite from the antenna which prepared car control information or car components status information in the car concerned, and receiving the signal reflected with the satellite Or by transmitting through mobile communication devices, such as DSRC (exclusive dedicated short range communications) or a cellular phone, from the car concerned, collecting by receiving the sending signal concerned, and collecting the car status information according to individual The statistics of car information are taken and the car premium claim art characterized by performing car premium claim processing by deferred payment based on statistics of this car information is offered.
[0020] This inventions are collected in quest of a car location with the reflective signal of the signal sent to the satellite from the antenna formed in the car. And by sending to a satellite from the antenna which prepared car sensor information in the car concerned, and receiving the signal reflected with the satellite Or it transmits through communication devices, such as DSRC (exclusive dedicated short range communications) or a cellular phone, from the car concerned. It collects by receiving the sending signal concerned, and the car status information according to individual is collected, The car conditions according to individual are collected together with the car-body information and user information that it was separately inputted about the car concerned, such as a type of a car and a car number, and the car

premium claim art which performs car premium claim processing by deferred payment based on statistics of this car information is offered.
[0021] In the car premium claim art which this invention decides the premium of a car by the contract with the user of a car, and charges a car premium In quest of car positional information, it collects with the reflective signal of the signal sent to the satellite from the antenna formed in the car. And by sending to a satellite from the antenna which prepared car control information and car components status information in the car concerned, and receiving the signal reflected with the satellite Or it transmits through communication devices, such as DSRC (exclusive dedicated short range communications) or a cellular phone, from the car concerned. Collect by receiving the sending signal concerned and the car status information according to individual is collected. The automobile status information by which teeming was carried out from the diagnostic system carried in the car is sent to a satellite from the car concerned based on diagnostic result information dispatch directions of the diagnostic system concerned. The signal reflected from this satellite is received, the car conditions according to individual are collected together with the car-body information and user information that it was separately inputted about the car concerned, such as a type of a car and a car number, and the car premium claim art which performs car premium claim processing by deferred payment based on statistics of this car information is offered.
[0022] In the car premium claim art which this invention decides the premium of a car by the contract with the user of a car, and charges a car premium By sending to a satellite from the antenna which prepared car control information or car components status information in the car concerned, collecting by receiving the signal reflected with the satellite, and collecting the car status information according to individual The statistics of car information are taken and the car premium claim art which performs car premium claim processing based on statistics of this car information is offered.
[0023] In the car premium claim art which this invention decides the premium of a car by the contract with the user of a car, and charges a car premium It sends to a satellite from the antenna which prepared car sensor information in the car concerned, it collects by receiving the signal reflected with the satellite, and the car status information according to individual is collected, The car conditions according to individual are collected together with the car-body information and user information that it was separately inputted about the car concerned, such as a type of a car and a car number, and the car premium claim art which performs car premium claim processing by deferred payment based on statistics of this car information is offered.
[0024] In the car premium claim art which this invention decides the premium of a car by the contract with the user of a car, and charges a car premium It sends to a satellite from the antenna which prepared car control information and car components status information in the car concerned. The automobile status information by which teeming was carried out from the diagnostic system carried in the car by receiving the signal reflected with the satellite is sent to a satellite from the car concerned based on diagnostic result dispatch directions of the diagnostic system concerned. The signal reflected from this satellite is received, the car conditions according to individual are collected together with the car-body information and user information that it was separately inputted about the car concerned, such as a type of a car and a car number, and the car premium claim art which performs car premium claim processing by deferred payment based on statistics of this car information is offered.
[0025]
[Embodiment of the Invention] Hereafter, one example concerning this invention is explained based on a drawing.
[0026] Drawing 1 is a system concept Fig. In drawing, the car status information from a car 1 is divided into two, and the car positional information whose number is one is sent to a satellite 4 from an antenna 3 through the mounted vessel 2 which carried the various control units formed in the car 1. The information containing the lat/long from a navigation terminal is sufficient as car positional information.
[0027] The signal reflected with a satellite 4 is sent to the package management pin center,large 6 as car information by S-band satellite communication and the broadcast system (HEO) 5.
[0028] Various kinds of sensors which detect car operational status have prepared in the car, and vehicle sensor information is acquired. Information, such as information, such as the car-body information for distinguishing a type of a car in advance of transmission of various sensor information, for example, a type of a car, a car-body number, the date of manufacture, and a registration all-prefectures name, or user information, can make it able to send beforehand, and can register. Moreover, the card reader / writer 7 is formed in the car, and the credit card for the card 8 only for users, for example, road toll payment, is prepared. User information, for example, a user name, a driver's license acquisition date, an operation history, a bank postal transfer account number, etc. are recorded on this card 8. Moreover, this card can be

used also in order to pay the use tariff when using the automobile physical damage insurance mentioned later.
[0029] A part of car-body information and vehicle sensor information are disseminated to a satellite 4 from an antenna 3 through the mounted vessel 2 as outline information, and they are collected in the package management pin center,large by S-band satellite communication and the broadcast system 5 like car positional information.
[0030] The remaining car information minds a dealer 9, or is directly inputted and collected by general-purpose DSRC (exclusive dedicated short range communications, Dedicated Short Range Communication)8 in the package management pin center,large. As remaining car information, car-body information etc. is in the detailed information list which are a part of user information and vehicle sensor information. The purchase of the gasoline which uses a card 8 minds a gas station 10, and may be similarly inputted and collected in the package management pin center,large 6 as information. Fuel consumption and engine information are acquired by this. The car information on other is inputted and collected in the package management pin center,large 6 by the radio means which is the backup circuit 11.

[0031] The statistics of the car information collected in the package management pin center,large 6 are taken, and it is utilized for statistical analysis or a diagnostic analysis. While the car information used for statistical analysis or a diagnostic analysis is recorded on the database (DB) 19 of a computer, information offer of it is made through the network bark bone 13, i.e., a public line, the Internet, etc. at a nonlife insurance company 14, an entire-car manufacturer and a components manufacturer 15, the used car assessment contractor 16, ministries and government offices and a self-governing body 17, and the rental car management contractor 18. Of course, this information offer will not be performed by no principle, but it will be carried out to the bottom of constraint of a contract and others. Moreover, car information offer from each car will also be performed to the bottom of constraint of a contract and others rather than will be performed for no principle. Moreover, a certain favor may be given to the user who allows information offer.
[0032] Drawing 2 shows a mounted vessel. In drawing, it consists of a drive system 23 of a sending set 21, car navigation equipment 22, and a car, and directions / auxiliary machinery system 24.
[0033] The signal from an antenna 3 is incorporated through the transceiver circuit 31 and the modulation demodulator circuit 32, and it gets over in the modulation demodulator circuit 32, and cipher processing of it is carried out in the transmitting reception-control circuit 33, and it is incorporated by CPU35 through a bus 34.
[0034] Required processings, such as carrying out cipher processing of the information which should be transmitted in the transmitting reception-control circuit 33, are performed, it becomes irregular in the modulation demodulator circuit 32, and CPU35 is transmitted from an antenna 3 through the transmitting reception-control circuit 33.
[0035] A card is read with a card reader / writer 7, and is incorporated by CPU35 through the read/write control circuit 36. Conversely, the data written in a card are sent to the read/write control circuit 36 by CPU35, and the read/write control circuit 36 is written in a card through a card reader / writer 7.
[0036] A user operates the I/O section 38 and directs processing to CPU35. CPU35 displays a required display on the display screen 39 of the I/O section 38, and although not illustrated, it also outputs voice.
[0037] Navigation equipment 22 has a receive section 41, a display 42, a control unit 43, and an antenna 44, is recording the current position, and the path and map (traffic information) information which moved, and can supply required information to CPU35 according to the demand from CPU35.
[0038] It is square, and the transmitter-receiver 21 which consists of antenna 3 and transceiver circuit 31 surrounding, the modulation demodulator circuit 32, the transmitting reception-control circuit 33, CPU35, the I/O section 38, a card reader/writer 7, and a read/write control circuit 36 is the system used for operation of this invention, and in order to acquire required information, it is further connected with other equipment and systems. These equipment and systems are as follows.
[0039] The drive system 23 of a vehicle consisted of a drive-system diagnostic system 49 which performs a diagnosis of an engine control system 45, an automatic gear 46, a brake operating unit 47 (antiskid control), the power-steering equipments 48, and these equipments every moment, and these are connected with the internal bus 50. The drive-system diagnostic system 49 diagnoses whether the value of the sensor of each interior has separated from the convention range, or neither the electrical potential difference nor the current has separated from the convention range, and whenever every fixed time amount and fault are detected, it memorizes the contents. These contents of storage are incorporated by CPU35 through the drive-system interface 51.

[0040] Directions / auxiliary machinery system 24 consisted of a car height control unit 54, and the generator and air-conditioner 55 for taking up and down of the light directions LGT control units 52, such as a light and an actuation display of a turn signal and a brake, the power window control unit 53, and a car height, or damper adjustment of a vehicle, and these are connected with the internal bus 56. The existence of actuation of equipment is diagnosed [whether these equipments are operating normally and] for these with directions / auxiliary machinery system diagnostic system 57 again, and fault and an operating condition are held. CPU35 can incorporate these maintenance data through directions / auxiliary machinery system interface 58 if needed.
[0041] If CPU35 has diagnostic result information dispatch of diagnostic systems 50 and 57, when judging whether the information is transmitted to a satellite and transmitting, transmission of a diagnostic result is directed in the transmitting reception-control circuit 33. In this case, the transmitting reception-control circuit 33 has the channel which asks for transmitting authorization from a satellite, allocation of the channel for transmission is received from a satellite, and transmission to a satellite is performed using this channel. CPU35 can make data input into the package management pin center,large 6 by directing the type of a car of the car concerned, a car, or a user name in the transmitting reception-control circuit 33 in advance of transmission of a diagnostic result, and transmitting to a satellite. In response to dispatch of the various sensor information put on the car without minding [50 and 57], sure enough, the function that CPU35 is the same is inputted into the package management pin center,large 6, and it may be made to diagnose sensor information in it based on the collected information. Car information is collectable even if such.
[0042] Drawing 3 is a system by the side of the package management pin center,large which receives the information from each car.
[0043] An antenna 61, the transceiver circuit 62, the modulation demodulator circuit 63, the transmit/receive control circuit 64, CPU65, and the I/O section 66 have the same function as a top. There is an operating processing system 67 which has a computer 68, i.e., a processor, independently [CPU65], and a lot of data are held. The server 69 is connected through the bus 68.
[0044] The operating processing system 67 arranges data for every serial number of every type of a car, every user, and a vehicle, and keeps a server. The data currently kept if needed are picked out from a server 69, and are offered.
[0045] The outline of satellite communication and a broadcast system is shown in drawing 4 .
[0046] drawing -- setting -- 100 -- in a GPS Satellite and 130, a car and 150 express a car-navigation system and 140 expresses [a broadcasting station and 110 / the satellite for broadcast (4 in drawing 1), and 120] the information display on a car-navigation system 150. In addition, a car-navigation system 150 is equipped with a receiving set. Moreover, a car-navigation system 150 is carried in a car 130, and performs location detection, path planning, and information presentation on a vehicle.
[0047] The satellite broadcasting service dispatch signal from a broadcasting station 100 and 105 190 Moreover, the satellite broadcasting service signal from the satellite 110 for broadcast, All the field range where 115 sets the signal for localization from GPS Satellite 120, and 170 is set as the informational transfer object, The field corresponding to the moving trucking 135 of the car [can set 135 to the moving trucking of a car 130, and / 160] 130 on [all] the field range 170, The target field where 180 transmits the information on [all] the field range 170, and 135 express the field the car 130 on [all] the field range 170 recognizes [the field] current existence.
[0048] Now, all the field range 170 set as the informational transfer object shall be classified into a small field like drawing 1 . The information about the partition of this small field shall both hold a broadcasting station 100, a car-navigation system 150, and the same thing. Moreover, a car-navigation system 150 shall pinpoint the location of a car 130, and shall receive the satellite broadcasting service signal 105, and shall present information.
[0049] A broadcasting station 100 decides the field of the object which transmits information to be a field 180, adds the information which pinpoints a field 180 to the information, is the satellite broadcasting service dispatch signal 190, and sends it to the satellite 110 for broadcast. The satellite 110 for broadcast which received the satellite broadcasting service dispatch signal 190 is the satellite broadcasting service signal 105, and transmits a signal.
[0050] On the other hand, a car-navigation system 150 receives the signal 115 for localization from GPS Satellite 120, and is asking for the location of a car 130. Moreover, the car-navigation system 150 pinpoints the field 125 where the car 130 on [all] the field range 170 exists. Moreover, the car-navigation system 150 is held by the input of **** by the operator, or is asking for the corresponding field 160 from the moving trucking 135 for which it asked by path probe ability.

[0051] If broadcast is received, a car-navigation system 150 will receive the satellite broadcasting service signal 105, and will take out the information included and the information which pinpoints a field. Here, the information which pinpoints a field 180 will be taken out. A car-navigation system 150 can ask for the field 125 which exists now [of a car 130], moving trucking 135, and a migration point.
[0052] The satellite 110 for broadcast is seen from the ground, is used as a satellite which is always located in the direction of the zenith, may extract the receiving sensibility of a car-navigation system 150 to the satellite concerned, and may be received. In that case, the radio disturbance by buildings, such as a building, can be reduced and the broadcast system which performs information presentation according to the situation of each mobile which broadcast does not interrupt can be realized.
[0053] Collection, the analysis, and the art of car status information are shown in drawing 5 as a flow chart. In this drawing (1) Immediately after the user who is an operator did the key in to the car and started the engine, a starting start signal is automatically sent to a package management pin center,large from a car (S1). A communication mode is taken as what can communicate also with DSRC or a cellular phone a core [the HEO path considered for there to be least message disabling].
[0054] (2) A pin center,large sends the acknowledgement message of whether to allow information offer to a car from a pin center,large after receiving the above-mentioned signal (S2).
[0055] (3) Check whether information offer is permitted to an operator (S3). as the contents offer approach of a check -- an audio response -- or it is based on a display display. The reply approach is based on two or more carbon buttons of a mounted vessel.
[0056] (4) Only when ****** is good, individual car information gathering is carried out about the car according to individual, and statistics is made (S4). Moreover, based on these data, purpose-oriented car information gathering and statistics, such as an insurance-company exception, are made (S5).
[0057] (5) Only when ****** is good, the system which integrates a service point starts (S6). The more this service point considers as the structure which increases in proportion to mileage and the time amount under engine starting and gets on in large numbers, the more it is taken as the structure whose service which can be received increases. A service point shall also be managed not only for every vehicle but for every user, and shall insert each one of ID cards into a mounted vessel at it, and the information on age, sex, a blood group, etc. shall be transmitted.
[0058] (6) Car status information shall put the following here and the level which is exhibited also in the case of offer authorization shall be chosen.
(1) Car positional information From a Nabih terminal to lat/long information (2) car control information Amount of brakes, handle accuracy, accelerator opening, number of gears, ABS operating time, and VSC operating time (3) car components status information An oil temperature, oil pressure, an electrical potential difference, remaining fuel, a CPU condition, muffler temperature VSC: ******** top controlling mechanism [0059] (7) Encipher data (S7) and transmit to a pin center,large (S8).
[0060] Even this is an information collection function. Information processing and an analysis feature are explained succeedingly.
[0061] (8) Compound-ize data in the pin center,large (S9).
[0062] (9) Form raw data into preservation DB for every type of a car of each manufacturer.
[0063] (10) Carry out statistical analysis for every type of a car (S10, S11).
(1) How many new functions attached as a function to take out the description to the other company are used?
(2) Isn't there any description in the use gestalt for every type of a car? It is whether they are Ex. time zone, a day of the week, and a commercial [0064] (11) Carry out performance analysis for every components (S10, S12).
(1) Is it normal to temperature?
(2) Is it normal to a pressure?
(3) Is a life cycle appropriate?
[0065] (12) Save analysis data at DB (S13).
[0066] The data offer service for an entire-car manufacturer and components manufacturers is explained.
[0067] It is the service which sells and offers the data stored by information gathering and processing / analysis feature of the above-mentioned flow at an entire-car manufacturer or a components manufacturer.

[0068] ** Make selling offer of the data through a network by purchase hope from an entire-car manufacturer or a components manufacturer (S14, S15). A network can choose the means which suits customer needs by all public network **.
** Encipher [not being monitored by the other company and] and send data.

** The manufacturer who received can expect to utilize data as follows.
[0069] <Statistical analysis data application> (1) A certain type of a car analyzes the statistical analysis information on for which generation it is used in what kind of time zone of what kind of day of the week, and considers the function which runs short of the type of a car, an excessive function, a price setup, etc.
(2) When it checks how many new functions attached as a function to take out the description to the other company are used and is used mostly, when there are little examination and use, remove application in other types of a car from a standard equipment, or consider reexamination of a price setup, adoption cancellation of the function, etc.
(3) The sale PR introduce the type of a car of the popular model according to current age and sex and a function to a dealer, and corresponding to a customer's generation and sex is possible **.
[0070] By ****(ing) the failure frequency for every <application (4) of performance analysis data for every components> components, the validity of the life cycle is verifiable.
(5) When there is abnormality communication from a user (operation fruit), package-ize the raw information and performance analysis data before and behind that, provide for a repair contractor and a dealer, and use for cause grasp of the abnormalities which are hard to reproduce.
[0071] The data offer service for used car related contractors is explained.
[0072] It is the service which sells and offers the data stored by information gathering and processing / analysis feature of the example 1 of a system at a used car vendor or a dealer (S18).
[0073] ** In order that those who are going to purchase the vehicle may grasp the assessment of their vehicle, connect with a pin center,large.
** Determine an assessment finely in the pin center,large from the passage information (the seashore, a place on the snow : both salt damage) on the location injured on the information (Ex. engine control information, the handle angular-velocity information, ABS accumulation operating time, VSC accumulation operating time, etc.) and the vehicle for grasping the internal state of a device in addition to the check hysteresis of a vehicle with an assessment request, and mileage, and a type of a car and a format etc.
** The above-mentioned method can be served also for the high dealer and high used car vendor of possibility of carrying in a trade-in car, a dismantling contractor, and an automatic repair shop.
[0074] The data offer service for the Environment Agency is explained.
[0075] It is the service which provides the Environment Agency with the information in connection with an environment among the data stored by information gathering and processing / analysis feature of the flow mentioned above.
[0076] ** Take up at random whether the harmful gas discharged from an engine has cleared the environmental-standards value, and inspect.
** Carry out statistical analysis for every type of a car, and when found more than the number with the type of a car which does not clear a reference value, the Environment Agency carries out improvement advice of the type of a car to a manufacturer.
[0077] The data offer service for a rent-a-car company and rental car users is explained.
[0078] It is the service which provides a renter firm with positional information among the data stored by information gathering and processing / analysis feature of the flow mentioned above.
[0079] ** rental car <for rent-a-car companies>, and Community Transport When the rental term of the vehicle used passes, a rental car is automatic feed appearance to a pin center,large at a HEO course about a self-vehicle location.
** Transmit to a pin center,large empty vehicle commissioned company, and make possible monitoring of a vehicle in which the commissioned company did expiration. As the offer approach, a lat/long information, b name of a place information, and c map display graphic screen information can be considered.
[0080] Community transport is a version rental car system in the center of Tokyo which makes cooperative use leaving possible in a certain area.
[0081] Service which transmits the commercial information on the area to a user although it is another relevance in the assignment of ** this time <for rental car users>.
** A commercial offer firm and a rent-a-car company tie up, and when it is accepted that a user passes commercial information, carry out cash back of the charge of a rental.
** An offer medium can consider offer only with the monitor for Nabih, and voice.
[0082] Self-governing body Electronic Road Pricing It turns and data offer service is explained.
[0083] It is the service which provides a self-governing body with addition time amount during a certain regulation area passage information (self-governing body boundary etc.), approach time, and regulation

area internal transmigration among the data stored by information gathering and processing / analysis feature of the flow mentioned above.
[0084] ** The pin center,large via HEO auto-sends the vehicle close to regulation area automatically, and from HEO, if thing - current passage is carried out, a vehicle will be told about the thing which is - regulation area and which is collected how much by fixed time amount. Decision of having gone into regulation area has the positional information grasp by mounted GPS functional linkage, and the approach of detecting by the road side DSRC not using HEO.
** After the above-mentioned ** is connected, always confirm how [that passed through regulation area] it is by the mounted vessel side, and when it passes, transmit addition time amount to a sensor side via HEO during the use fruit of an approach time and its vehicle, and area migration.
** As the settlement-of-accounts approach, the real-time settlement by an ex post facto package claim and ETC and PURIPEDO payment are made.
[0085] Data offer SABIZU for nonlife insurance companies is explained.
[0086] the data stored by information gathering and processing / analysis feature of the flow mentioned above -- a nonlife insurance company -- a rate -- it is the service sold and offered for calculation, calculation of an accident-liability rate, etc. (S14).
[0087] ** The service which only the time zone using a vehicle pays a premium can be offered. Insurance on demand (for [which does not ride in a vehicle frequently] men, weekend user sense.) The approach of paying by card at the time of the reversionary method which summarized insurance by fixed period (Ex. one month) about the method of payment cheaply in addition to the old prepayment approach, without carrying out a yearly contract, the real-time settlement by the ETC card, and operation termination is also considered.
** Distinguish passage of the path which uses a transit location well, the path (it is the first) which is not so and the location which there is much accident and is generated, the location which is not so, and compute a premium. In addition, what does not necessarily need to offer the information on lat/long, performs the above-mentioned distinction within a mounted vessel, and transmits the code information corresponding to each from protection of privacy is sufficient. For example, the path which is not used within the past one year may be set to 0, and you may set passage of 1 and an accident frequent occurrence part to 2 etc. for the contrary, and may also provide and drop off till where when it moved.
[0088] Hereafter, the car communications service for nonlife insurance companies is explained to a detail about a car premium using the flow chart of drawing 6 .
[0089] ** Immediately after the user who is an operator did the key in to the car and started the engine, send a starting start signal to a package management pin center,large from a car automatically (S21). By the flow shown in drawing 2 , (1) car positional information, (2) car control information, and (3) car components status information are performed by this, and as mentioned above, in addition to such information, the statistics of attachment information, such as a type of a car and a user name, are separately collected and taken in the package management pin center,large.
[0090] ** Carry out use tariff calculation from a type of a car and a user name in the pin center,large, and carry out acknowledgement message dispatch with tariff guidance at the car (S22). The user of a car is asked for decision whether insurance is used or not (S23). Although the inquiry of whether car empty vehicle both insurance is used is carried out and it is made to perform a conclusion of a contract on the spot in this example, of course, it is possible to carry out this contract beforehand, and it can restrict a term in that case and can make it a fixed period. Moreover, a short period of time, i.e., that day, and the days doubled with the itinerary can be set up like this example. Here, since these periods will also be specified on a contract, it is dealt with as a fixed period.
[0091] ** If using insurance is sent, the vehicle utilization-time data and passage data which were integrated every fixed time amount will be enciphered with a mounted vessel, and it will be transmitted to a pin center,large (S24). It is not every fixed time amount and can also measure continuously. In this case, the record by collection can be limited only to a unique matter. Here, operation time data is called for and this data is used for the time data count for accounting. ** all operation time may turn into time amount for accounting according to the contents of the contract -- a part of operation time -- with -- **** -- it can also consider as the time amount for accounting. Furthermore, the passage data about the known / strangeness / accident danger zone through which a car passes are collected. It can check the central-control system in a pin center,large registering about these points, or having not registered. Operations or car information on other may be data-ized. For example, the acceleration addition value data of the frequency of a slam on the brake, a sudden handle, and sudden dispatch and each item may be collected. Moreover, it is good also as not a point but a field including the point. Here, a point is explained. These

data are decrypted in the pin center,large (S25), and are recorded according to a user as raw data (S26). That is, raw data is recorded for a nonlife insurance company (****), a fee calculation outsourcing service firm, and users.

[0092] ** The data the statistics of were collected and taken are used for the sale for **** of raw data (S27), and a fee calculation outsourcing service firm is provided with them (S28). Moreover, separately, it is provided for the fee calculation outsourcing service firm concerned so that maintenance hysteresis information may be reflected in premium count as data (S29). As for the lapsed days after the routine inspection / maintenance hysteresis information on past, for example, maintenance, ? etc. is collected. If memory is in a car, it will send from a car, and if there is nothing, it will collect via a network from a vehicle maintenance contractor.

[0093] ** This service firm calculates the time amount for accounting based on operation time data, decides, for example, performs coupon ticket settlement-of-accounts count reversionary accounting count. Moreover, the known point by passage data is cheap, a strange point is high and the point occurring [accident] frequently calculates by setting up a premium rate highly. Here, this setup is called premium weighting. Naturally not the premium rate to a basic premium but the premium itself may be calculated. In quest of the operation time within a fixed period, it collects about the car a contract of was made. And the point through which it passed by operation of the car concerned (as mentioned above, moving trucking and a field are included.) It collects in quest of passage data. about -- the time data for accounting from said operation time data And premium weighting is set up based on one side or the both sides of this time data for accounting, and passage data, and it displays by calculating the premium amount billed based on the time data for accounting, passage data, and premium weighting. Of course, it can calculate what point it is what point from operation time data from the mark which passed through the pinpointed point, and the premium amount billed can be calculated based on this point. Even if it is this technique, the time amount for accounting would be set up as a candidate for count, passage data would be used, and setting up that it is what point will have adopted premium weighting. moreover, a this premium weighting sake -- one of car control information, car components status information, a car (for example, is it old or is new?) and the user information about a user, and the maintenance hysteresis information -- or it combines and may be used as information on other.

[0094] ** User claim processing is performed based on the premium amount billed (S32). for example, bank dropping [lengthen] from the card mentioned above will be made by the reversionary method 4. This user claim processing includes PL (Product Liability) premium claim processing to a car or its components manufacture manufacturer, and the premium claim processing based on negligence rate analysis the time of accident.

[0095] In addition, since statistical analysis can be performed by collecting certainly the car status information mentioned above, and taking the statistics of it, it is possible for the car premium by the present payment-in-advance method to pay, to improve at the time of the contract of updating of a frame, and to reform a tariff.

[0096]

[Effect of the Invention] According to this invention, since the use frequency of a car and a use situation can be statistically grasped on real time, tariff payment claim processing corresponding to the use frequency of a car and a use situation can be performed. The method of the contract of insurance can be diversified without being limited to the tariff payment by the yearly contract by this. For example, payment of premium gold serves as a reversionary method.

[0097] The service specifically carry out package management of the outline status information of the car which spread in all parts of Japan in the pin center,large using HEO, and whose detail status information also carries out mining of collection and this data, and makes onerous offer of that information by cooperation with broadband mobile communications, such as DSRC and IMT-2000, is offered.

[Translation done.]

* NOTICES *

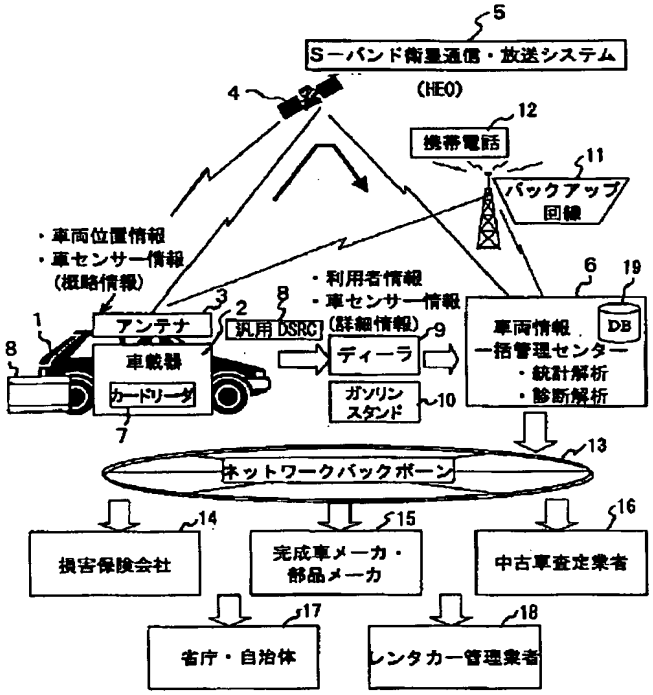
1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DRAWINGS

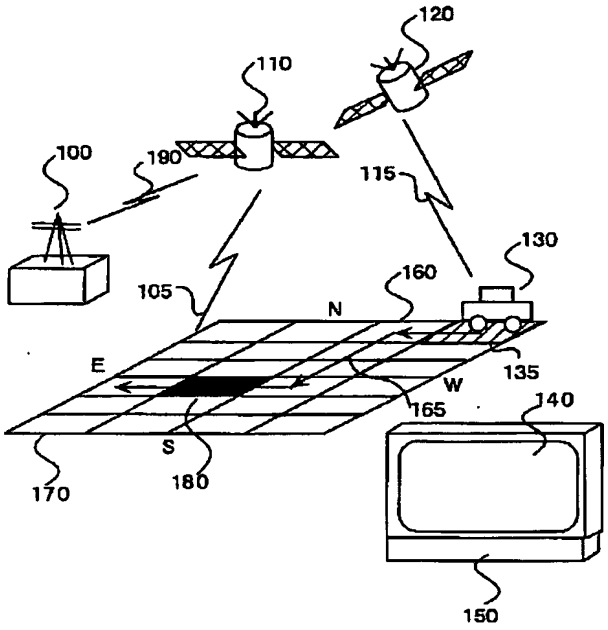
[Drawing 1]

図 1



[Drawing 4]

図 4



[Drawing 2]

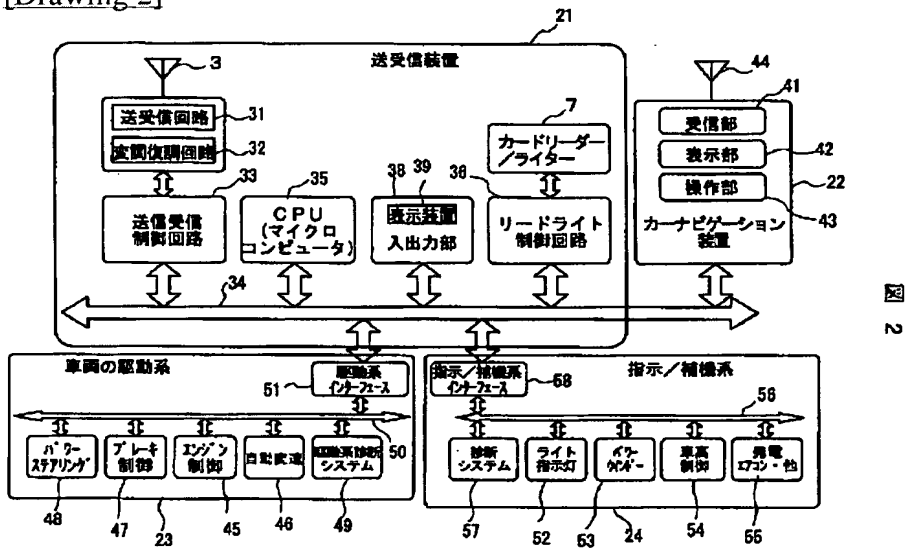


図 2

[Drawing 3]

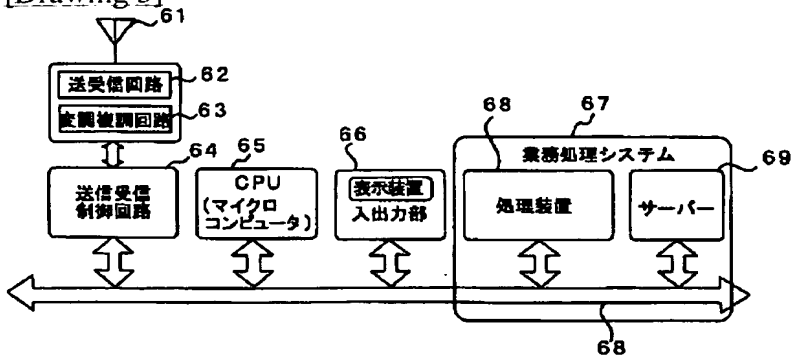
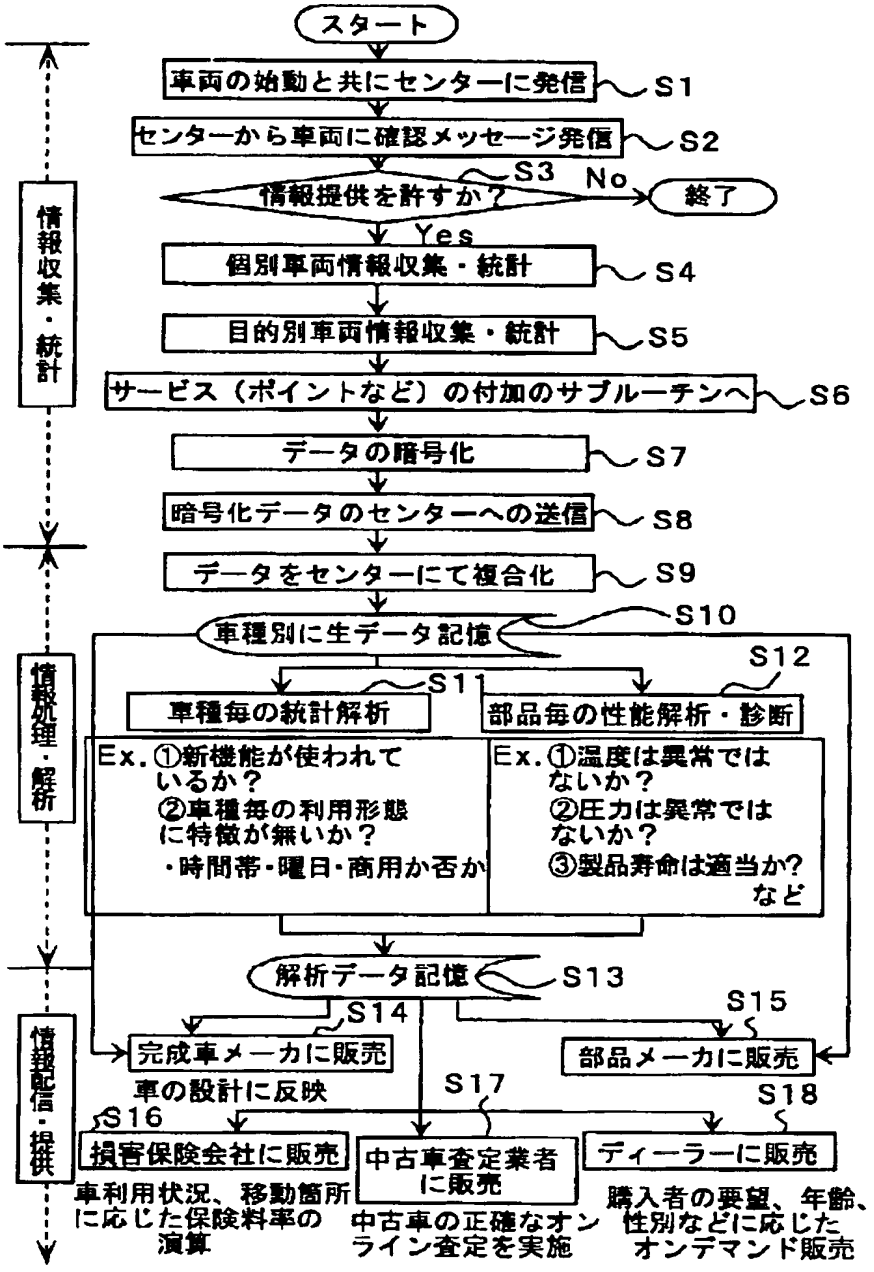


図 3

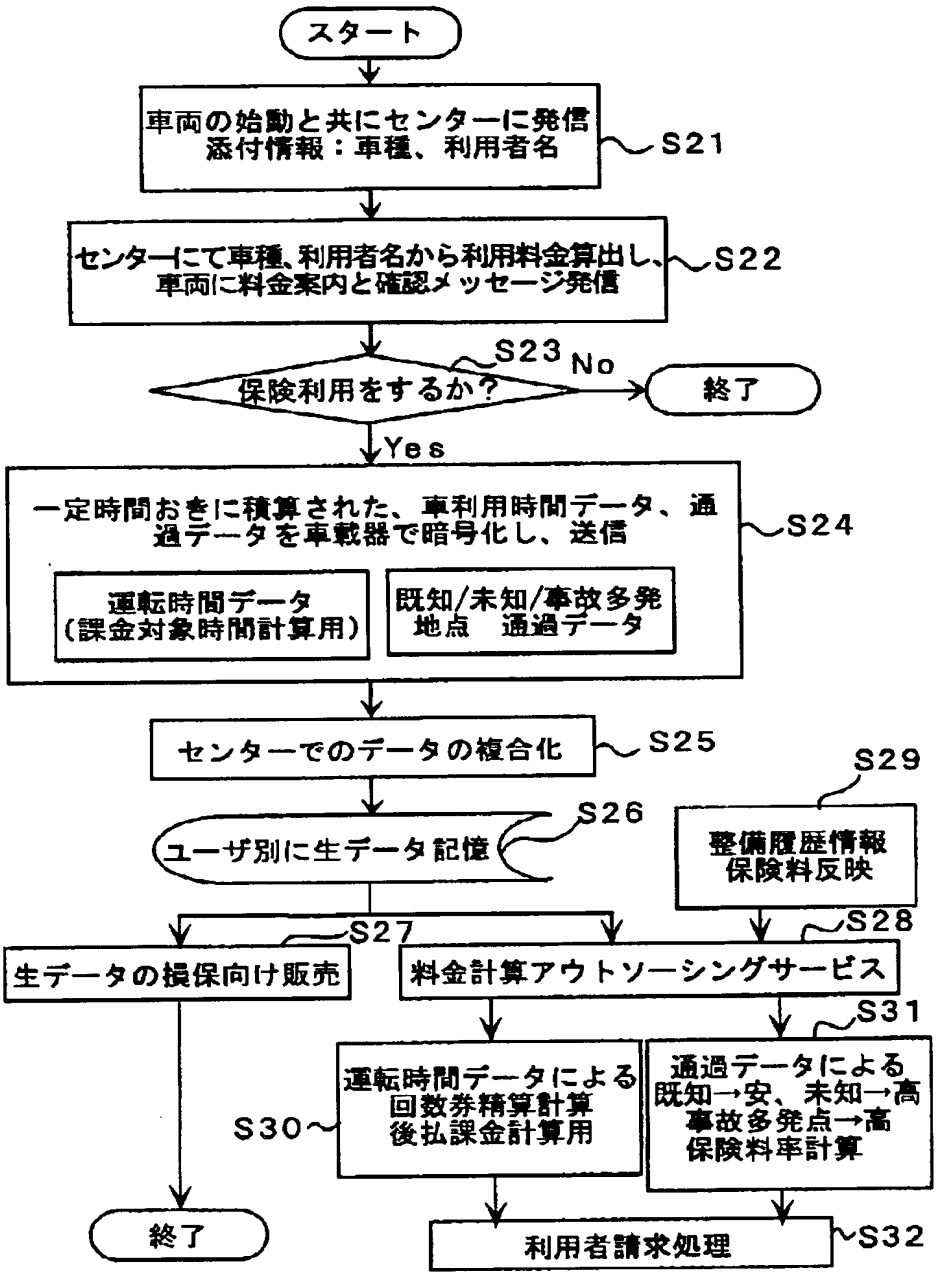
[Drawing 5]

図 5


スタート
車両の始動と共にセンターに発信
S1
センターから車両に確認メッセージ発信
S2
S3
情報提供を許すか？
No
終了
Yes
個別車両情報収集・統計
S4
目的別車両情報収集・統計
S5
サービス（ポイントなど）の付加のサブルーチンへ
S6
データの暗号化
S7
暗号化データのセンターへの送信
S8
データをセンターにて複合化
S9
車種別に生データ記憶
S10
S11
S12
車種毎の統計解析
部品毎の性能解析・診断
Ex.①新機能が使われているか？
②車種毎の利用形態に特徴が無いか？
・時間帯・曜日・商用か否か
Ex.①温度は異常ではないか？
②圧力は異常ではないか？
③製品寿命は適当か？
など
解析データ記憶
S13
S14
S15
完成車メーカに販売
部品メーカに販売
車の設計に反映
S17
S18
S16
損害保険会社に販売
中古車査定業者に販売
ディーラーに販売
車利用状況、移動箇所に応じた保険料率の演算
中古車の正確なオンライン査定を実施
購入者の要望、年齢、性別などに応じたオンデマンド販売
情報収集・統計
情報処理・解析
情報配信・提供

[Drawing 6]

図 6



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CORRECTION OR AMENDMENT

[Kind of official gazette] Printing of amendment by the convention of 2 of Article 17 of Patent Law
[Section partition] The 3rd partition of the 6th section
[Publication date] July 29, Heisei 16 (2004. 7.29)

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G06F 17/60
G01S 5/02
G06F 17/40
H04B 7/15

[FI]

G06F 15/21 Z
G01S 5/02 Z
G06F 15/21 340 Z
G06F 15/74 320 A
H04B 7/15 Z

[Procedure revision]
[Filing Date] July 8, Heisei 15 (2003. 7.8)
[Procedure amendment 1]
[Document to be Amended] Specification
[Item(s) to be Amended] Claim
[Method of Amendment] Modification
[The contents of amendment]
[Claim(s)]
[Claim 1]
The mounted vessel with which a car is equipped can set up the use period of insurance now,
Said mounted vessel transmits type-of-a-car information and user information to the information about the set-up use period concerned, and a list in the center from the transmitter-receiver of said mounted vessel at least,
The information about the premium of the automobile physical damage insurance called for in said center based on transmission in said center and the information about the acknowledgement message of whether to use the automobile physical damage insurance concerned are received by said transmitter-receiver from said center,
Said mounted vessel is an art of insurance which operates so that a contract may be concluded in said automobile physical damage insurance.
[Claim 2]
In claim 1,
Said mounted vessel is the art of the insurance characterized by the ability to set up the insurance use period which has the navigation function and was doubled with the itinerary.
[Claim 3]

The mounted vessel with which the car with which the contract of automobile physical damage insurance was made was equipped transmits the control information of said car to a center from a transmitter-receiver,
From the control information of said car, said mounted vessel receives the car premium computed based on the information on a slam on the brake by the transmitter-receiver,
The art of the insurance which displays said premium which received on the display with which said mounted vessel was equipped.
[Claim 4]
In claim 1 or 3,
Said mounted vessel is equipped with the card reader writer which write information to a credit card,
Said mounted vessel is the art of the insurance characterized by for a premium paying and performing processing by the method of pulling down from said credit card using said card reader writer.
[Claim 5]
In claim 4,
It is the art of the insurance to which said premium pays and timing of processing is characterized by being a time of the stage when the contract of said automobile physical damage insurance was concluded, the operation termination stage of said self-car, or said use period passing.
[Claim 6]
The system of a center receives mounted vessel empty vehicle both the control information of each car which has concluded a nonlife insurance company and car insurance,
It is an art for the insurance which analyzes said system based on the car control information received from the mounted vessel of each car, and transmits to the processor of said nonlife insurance company in order that the processor of said nonlife insurance company may calculate the premium of said automobile physical damage insurance of said specific car for the information which analyzed said system.
[Claim 7]
The system of a center receives mounted vessel empty vehicle both the control information of two or more cars, respectively, and said system transmits the car control information received from said each mounted vessel to the processor of said nonlife insurance company,
Said system receives the information about the premium of said automobile physical damage insurance computed with the processor of said nonlife insurance company based on the information transmitted to the processor of said nonlife insurance company from the system of said center from the processor of said nonlife insurance company,
Said system is an art for the insurance characterized by performing transmission based on the information which the system received in the mounted vessel of a related car.
[Claim 8]
In claim 6 or 7,
Said system of a center has the database,
In addition to the control information of said car, said system receives the positional information of said car, and accumulates the information which analyzed the received information concerned in said database,

Said system is an art for the insurance which transmits the analysis information based on the control information of said car, and the positional information of said car to the processor of said nonlife insurance company for the processing about the premium of the processor of said nonlife insurance company.
[Claim 9]
In order to compute the premium of the specific car which has concluded car insurance, the secondary information which processed the car control information collected in the center from said specific car in said center is received from said center in a nonlife insurance company,
The premium of said specific car is computed based on said secondary information which received,
The art for the insurance which transmits the information about the premium of the computed automobile physical damage insurance concerned to the transmitter-receiver with which said specific car was equipped from said nonlife insurance company through said center.
[Claim 10]
In claim 9,
Said car control information is the output of the sensor with which said specific car is equipped,
Said secondary information is an art for the insurance characterized by being the information about a slam on the brake.

[Claim 11]
In claim 9,
Said center includes car positional information in the information collected and processed,
The art for the insurance characterized by computing said premium based on the car positional information of the location through which said specific car passed in case the premium of said specific car is computed in said nonlife insurance company.
[Claim 12]
In claim 9,
A service point is given to a contractor or a contract vehicle,
The art for the insurance characterized by computing the premium as the premium amount billed based on the points, such as the point of the point which said contractor or said contract vehicle has, the point of the data about operation time, the point of the data about a passage point, and the data about a violent maneuver.
[Procedure amendment 2]
[Document to be Amended] Specification
[Item(s) to be Amended] 0014
[Method of Amendment] Modification
[The contents of amendment]
[0014]
The mounted vessel with which a car is equipped with this invention can set up the use period of insurance now. Said mounted vessel In the information about the set-up use period concerned, and a list, at least type-of-a-car information and user information The information about the premium of the automobile physical damage insurance which transmitted to the center from the transmitter-receiver of said mounted vessel, and was called for in said center based on transmission in said center, And the information about the acknowledgement message of whether to use the automobile physical damage insurance concerned is received by said transmitter-receiver from said center, and said mounted vessel offers the art of insurance which operates so that a contract may be concluded in said automobile physical damage insurance.
Said mounted vessel has the navigation function and can set up the insurance use period doubled with the itinerary.
[Procedure amendment 3]
[Document to be Amended] Specification
[Item(s) to be Amended] 0015
[Method of Amendment] Modification
[The contents of amendment]
[0015]
The mounted vessel with which the car with which the contract of automobile physical damage insurance was made was equipped with this invention transmits the control information of said car to a center from a transmitter-receiver, said mounted vessel receives the car premium computed based on the information on a slam on the brake by the transmitter-receiver from the control information of said car, and the art of the insurance which displays said premium which received on the display with which said mounted vessel was equipped is offered.
[Procedure amendment 4]
[Document to be Amended] Specification
[Item(s) to be Amended] 0016
[Method of Amendment] Modification
[The contents of amendment]
[0016]
This invention is equipped with the card reader writer to which reading and said mounted vessel write information to a credit card, and said mounted vessel offers the art of the insurance which a premium pays and performs processing by the method of pulling down from said credit card using said card reader writer.
[Procedure amendment 5]
[Document to be Amended] Specification
[Item(s) to be Amended] 0017
[Method of Amendment] Modification
[The contents of amendment]

[0017]
Said premium pays and the timing of processing is a time of the stage when the contract of said automobile physical damage insurance was concluded, the operation termination stage of said self-car, or said use period passing.
[Procedure amendment 6]
[Document to be Amended] Specification
[Item(s) to be Amended] 0018
[Method of Amendment] Modification
[The contents of amendment]
[0018]
As for this invention, the system of a center receives mounted vessel empty vehicle both the control information of each car which has concluded a nonlife insurance company and car insurance, said system is analyzed based on the car control information received from the mounted vessel of each car, and said system offers the art for the insurance which transmits to the processor of said nonlife insurance company, in order that the processor of said nonlife insurance company may calculate the premium of said automobile physical damage insurance of said specific car for the analyzed information.
[Procedure amendment 7]
[Document to be Amended] Specification
[Item(s) to be Amended] 0019
[Method of Amendment] Modification
[The contents of amendment]
[0019]
In this invention, the system of a center receives mounted vessel empty vehicle both the control information of two or more cars, respectively. Said system The car control information received from said each mounted vessel is transmitted to the processor of said nonlife insurance company. It is based on the information transmitted to the processor of said nonlife insurance company from the system of said center. Said system receives the information about the premium of said automobile physical damage insurance computed with the processor of said nonlife insurance company from the processor of said nonlife insurance company. Said system The art for the insurance which performs transmission based on the information which the system received in the mounted vessel of a related car is offered.
[Procedure amendment 8]
[Document to be Amended] Specification
[Item(s) to be Amended] 0020
[Method of Amendment] Modification
[The contents of amendment]
[0020]
Said system of a center has the database, in addition to the control information of said car, said system receives the positional information of said car, and accumulates the information which analyzed the received information concerned in said database, and said system transmits the analysis information based on the control information of said car, and the positional information of said car to the processor of said nonlife insurance company for the processing about the premium of the processor of said nonlife insurance company.
[Procedure amendment 9]
[Document to be Amended] Specification
[Item(s) to be Amended] 0021
[Method of Amendment] Modification
[The contents of amendment]
[0021]
In order that this invention may compute the premium of the specific car which has concluded car insurance, The secondary information which processed the car control information collected in the center from said specific car in said center Receive from said center in a nonlife insurance company, compute the premium of said specific car based on said secondary information which received, and said center is minded for the information about the premium of the computed automobile physical damage insurance concerned. The art for the insurance which transmits to the transmitter-receiver with which said specific car was equipped from said nonlife insurance company is offered.
[Procedure amendment 10]
[Document to be Amended] Specification

[Item(s) to be Amended] 0022
[Method of Amendment] Modification
[The contents of amendment]
[0022]
Said car control information is the output of the sensor with which said specific car is equipped, and said secondary information is the information about a slam on the brake.
[Procedure amendment 11]
[Document to be Amended] Specification
[Item(s) to be Amended] 0023
[Method of Amendment] Modification
[The contents of amendment]
[0023]
In case said center computes the premium of said specific car to the information collected and processed in said nonlife insurance company including car positional information, said premium is computed based on the car positional information of the location through which said specific car passed.
[Procedure amendment 12]
[Document to be Amended] Specification
[Item(s) to be Amended] 0024
[Method of Amendment] Modification
[The contents of amendment]
[0024]
A service point is given to a contractor or a contract vehicle, and the premium as the premium amount billed is computed based on the points, such as the point of the point which said contractor or said contract vehicle has, the point of the data about operation time, the point of the data about a passage point, and the data about a violent maneuver.

[Translation done.]